



**National Park Service**  
U. S. Department of the Interior

# **Highly Pathogenic Avian Influenza in Wildlife Response Plan**

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Prepared  
by:

The National Park Service  
Biological Resource  
Management Division  
Wildlife Health Program

In  
cooperation  
with :

The National Park Service  
Public Health Program  
Risk Management Program  
Law Enforcement and  
Emergency Services  
Human Resources

## Table of Contents

<b>EXECUTIVE SUMMARY</b>	<b>Page 4</b>
<b>INTRODUCTION</b>	<b>Page 5</b>
<ul style="list-style-type: none"><li>• Background</li><li>• Purpose of Plan</li><li>• How to Use This Plan</li><li>• HPAI Decision Tree and Action Flowchart</li></ul>	
<b>PREPARATION</b>	<b>Page 12</b>
<ul style="list-style-type: none"><li>• Reference material</li></ul>	
<b>INITIAL RESPONSE: WHAT TO DO IF AN AVIAN INFLUENZA VIRUS IS DETECTED</b>	<b>Page 15</b>
<ul style="list-style-type: none"><li>• Step 1: Contact the appropriate animal health officials and cooperating agencies</li><li>• Step 2: Secure the area in accordance with the instructions of the experts contacted in step 1</li><li>• Step 3: Coordinate initial actions with cooperating agencies</li></ul>	
<b>MEASURED RESPONSE: YOUR PARK IS IN A DISEASE SURVEILLANCE ZONE</b>	<b>Page 17</b>
<ul style="list-style-type: none"><li>• Step 4: Contact cooperating agencies and organizations</li><li>• Step 5: Conduct a situation analysis, including incident complexity and order incident resources as needed</li><li>• Step 6: Review existing plans and policy documents</li><li>• Step 7: Take actions in coordination with cooperating agencies</li></ul>	
<b>FULL RESPONSE: YOUR PARK IS IN A DISEASE CONTROL AREA</b>	<b>Page 20</b>
<ul style="list-style-type: none"><li>• Step 8: Notify cooperating agencies and organizations</li><li>• Step 9: Conduct a situation analysis, including incident complexity and order incident resources, including an Incident Management Team if needed</li><li>• Step 10: Take initial containment actions in coordination with cooperating agencies</li><li>• Step 11: Manage the incident in accordance with law, policy and management goals</li></ul>	

**APPENDICES**

Appendix 1	Surveillance for Highly Pathogenic Avian Influenza	<b>Page 24</b>
Appendix 2	Protecting Employees and Visitors Against Exposure to HPAI	<b>Page 27</b>
Appendix 3	History Form and Sample Submission Information	<b>Page 34</b>
Appendix 4	Prototype Incident Management Materials	<b>Page 38</b>
	<ul style="list-style-type: none"><li>• Situation analysis form</li><li>• Incident complexity guide</li><li>• Sample Delegation of Authority</li><li>• Sample Incident Objectives and Strategies</li><li>• ICS sections considerations</li><li>• Information strategy and checklist</li><li>• Sample Incident Action Plan</li></ul>	
Appendix 5	Contact and Notification Lists and Sample Contact Form	<b>Page 60</b>
	<b>GLOSSARY</b>	<b>Page 78</b>
	<b>CONTRIBUTORS</b>	<b>Page 81</b>

## Executive Summary

### ***What is the danger of highly pathogenic avian influenza?***

The Asian H5N1 strain of highly pathogenic avian influenza (HPAI), or bird flu, is primarily a disease of domestic poultry that is not native to North America. At the time of this writing, H5N1 is not known to be present in North America; however, outbreaks of HPAI in other parts of the world and the likelihood of continued spread, has heightened concern in the United States.

Should HPAI be introduced to the U.S., potential exists to impact NPS in three primary ways. The first and most likely impact will be to wildlife, primarily migratory birds. Management of domestic fowl maintained for cultural scenes would also be impacted. Further, humans can be exposed to and contract this illness by contact with birds, placing some NPS employees and possibly visitors at risk. In addition, if the virus adapts so that sustained human to human transmission occurs, it is possible that NPS would be faced with participation, along with local, state and federal health officials, in controlling the spread of this agent among people.

### ***What is in this Response Plan?***

This Response Plan recommends actions to be taken at the park level if HPAI occurs in North America and is close enough to an NPS unit that restrictions are imposed on animal movement, management, or on park visitors. The Plan addresses two different circumstances: first, if a park is within a USDA-defined Surveillance Zone and second, if a park is within a USDA-defined Control Area (Infected Zone or Buffer-Surveillance Zone). The level of response will also vary based on the number of cases that have occurred previously, i.e., the first several detections may be of highest concern.

### ***What to do if an NPS unit is in a highly pathogenic avian influenza Surveillance Zone.***

A Surveillance Zone is delineated by USDA Animal and Plant Health Inspection Service to monitor for disease spread beyond a Control Area. The HPAI coordinators, assigned for each park and region, should identify what resources in the park may be affected.

Communication with other agencies, particularly the USDA APHIS and the state veterinarian, is critical. The HPAI coordinators should consult their park-specific list of appropriate local contacts. Information should be provided to all employees and the public.

In consultation with the HPAI coordinator and park management, NPS units may conduct increased disease surveillance in wildlife and remove poultry and domestic fowl as outlined in this Plan.

### ***What to do if an NPS unit is in a highly pathogenic avian influenza Control Area.***

If highly pathogenic avian influenza is confirmed in an NPS unit, or the park is within a USDA-defined Control Area (Infected Zone or Buffer-Surveillance Zone), park staff should analyze the situation and order an Incident Management Team if this is among the earliest North American disease detections. Should HPAI become common or endemic in North America, NPS subject matter experts may be consulted for assistance.

The HPAI incident should be managed in accordance with enabling legislation, agency policies, park purpose and significance, and management goals.

## Introduction

### BACKGROUND

#### Historical and Scientific Information

The Asian H5N1 strain of highly pathogenic avian influenza (HPAI), or bird flu, is primarily a disease of domestic poultry that is not native to North America. At the time of this writing, H5N1 is not known to be present in North America; however, outbreaks of HPAI in Asia, the Middle East, Europe, and Africa, and the likelihood of continued spread to other parts of the world, have heightened concern in the United States. The Federal government response to HPAI is tiered from the Homeland Security Council's National Strategy for Pandemic Influenza (<http://www.pandemicflu.gov/plan/>). NPS response is further tiered from the Department of the Interior Pandemic Influenza Preparedness and Response Plan.

Outbreaks of highly pathogenic avian influenza subtype H5N1 have been occurring in poultry in Southeast Asia since 2003. Wild birds, particularly waterfowl and shorebirds, commonly carry low pathogenicity avian influenza viruses without harm. However, the Asian H5N1 HPAI virus has mutated and adapted to cause illness and death in domestic and wild birds, and has also affected a limited number of mammals, including humans. Worldwide, mortality from the virus has been detected in more than forty species of free-ranging birds including swans, ducks, geese, gulls, birds of prey, and some peridomestic species such as sparrows and corvids (view full list at [http://www.nwhc.usgs.gov/disease\\_information/avian\\_influenza/affected\\_species\\_chart.jsp](http://www.nwhc.usgs.gov/disease_information/avian_influenza/affected_species_chart.jsp)). Over 200 million domestic birds in the affected countries have died or been culled in attempts to control the disease. In humans, the death rate from reported HPAI cases to date has been about 50%; however, case mortality in a pandemic has been projected in the U.S. National Strategy for Pandemic Influenza (2005) to be <2%.

The virus is spread among birds in fecal droppings, saliva, and nasal discharges. The virus is quite easily inactivated by disinfectants but can survive for long periods (a month or more) in cold water. HPAI has been detected in some apparently healthy wild birds. The role of migratory birds in spread of the disease is likely, although human assisted movement of poultry or poultry products are also important transmission pathways. The impact of HPAI on wild bird populations is unknown. More clear is that HPAI poses a significant economic threat to domestic poultry and fowl operations and to human health.

If HPAI were identified in poultry or other domestic fowl in the United States, regulatory agencies (e.g., USDA APHIS) would respond with immediate culling of domestic birds within a predetermined radius of the case (the "infected zone"). Stepped-up surveillance, movement restrictions, and perhaps a zonal ring of vaccination of domestic birds, in facilities surrounding the outbreak would supplement disease control efforts. Although culling domestic birds to contain the spread of HPAI is considered an acceptable agriculture practice, culling of migratory birds is likely ineffective in disease control and would have unknown and potentially significant ecological consequences. Further, culling migratory birds is not recommended as an HPAI management action by the Food and Agriculture Organization of the United Nations (FAO) or World Health Organization (WHO), the two leading international health authorities.

Most human cases have occurred from contact with infected poultry or contaminated surfaces. To date, spread of H5N1 virus from person to person has been rare and spread has not continued beyond one person. However, because all influenza viruses are genetically unstable and have a tendency to change, scientists are concerned that the Asian H5N1 virus could one day be spread easily from one person to another. If the virus were able to infect people and spread easily from person to person, an influenza pandemic could begin.

Therefore, should HPAI be introduced to the U.S., potential exists to impact NPS in three primary ways. The first and most likely impact will be to wildlife, particularly migratory birds. Management of domestic fowl maintained for cultural scenes would also be impacted. Further, humans can be exposed to and contract this illness by contact with birds, placing some NPS employees and possibly visitors at risk. Additionally, if the virus adapts to achieve sustained human to human transmission, it is possible that NPS would be faced with participation, along with local, state and federal health officials, in controlling the spread of this agent among people.

### **National Park Service Management Considerations**

Park managers have an opportunity to consider potential disease response actions before an outbreak occurs in North America. This plan considers the following:

- Potential impairment of park resources, including actions recommended for disease control.
- Viable populations of wildlife and plants in parks, in accordance with each park's purpose and significance.
- Visitor experiences in parks, in accordance with each park's purpose and significance.
- Maintenance of visitor and employee health and safety.
- Economic loss to communities and the private sector from either animal destruction or travel restrictions.

## **PURPOSE OF THIS PLAN**

### **General Purposes**

Should highly pathogenic avian influenza be detected in or near a park, that park is likely to be involved in a coordinated response with other agencies. Many of these agencies will want decisions made immediately and actions taken quickly. Therefore, adequate preparedness is critical (See Preparedness and Communication Plan).

The primary purpose of this National Park Service Highly Pathogenic Avian Influenza Response Plan is to provide guidance for park managers and staff in the event of an outbreak near a park. This plan can help park managers consider the impacts to park resources and visitor experiences that proposed actions could cause.

The Incident Command System is ideally suited for managing complex situations, including those involving multiple jurisdictions and agencies. This plan provides

information, prototypes, and samples of incident management materials that can assist parks and incident responders in properly managing a highly pathogenic avian influenza incident.

### **Relationship with Policy and Compliance**

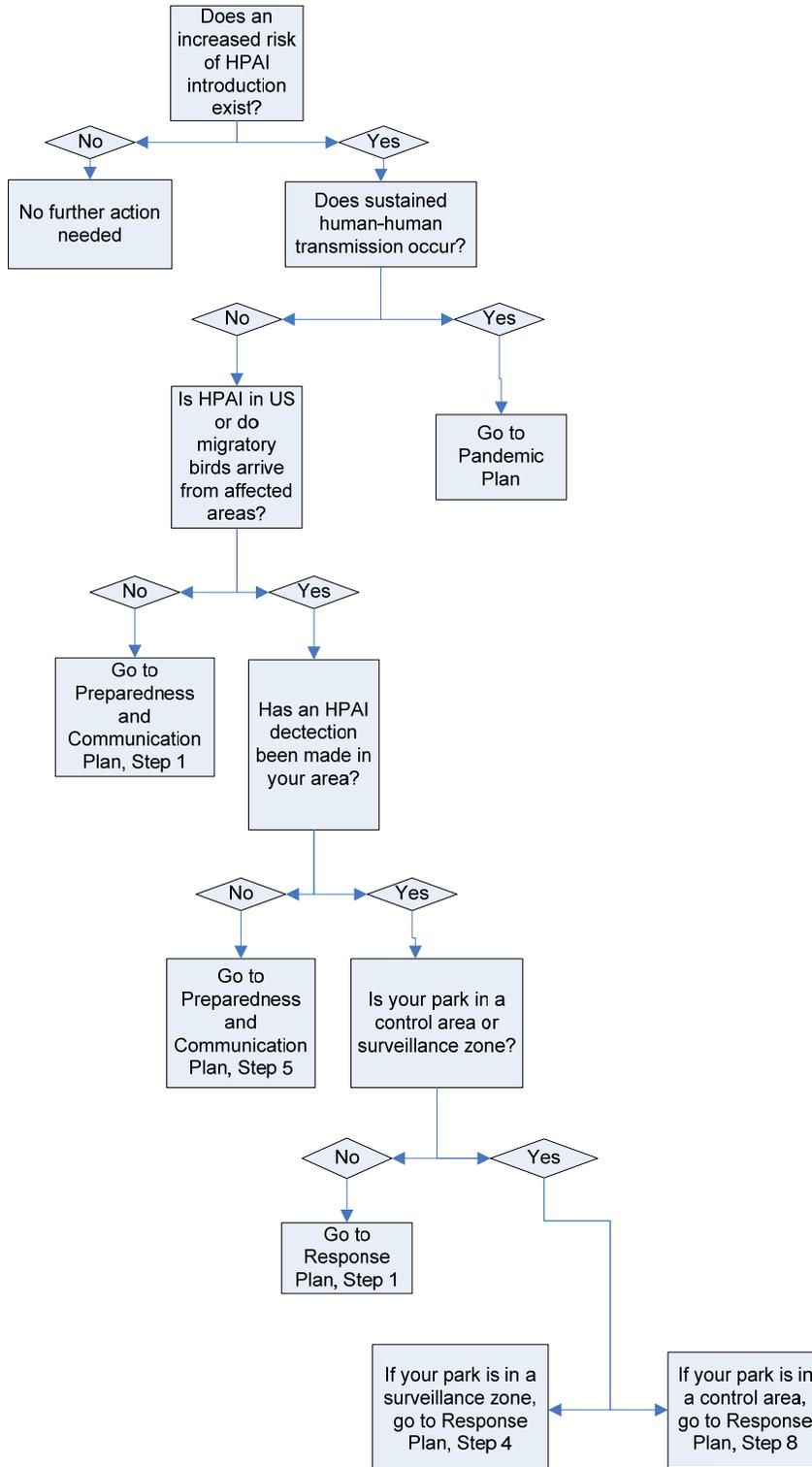
This plan is not intended to establish or modify NPS or individual park policy. This plan should be considered "highly recommended advice" to parks. *The applicability of legal constraints and obligations, policy requirements, applicable definitions (such as impairment) and strategic management goals must be considered when planning actions.*

### **HOW TO USE THIS PLAN**

To assist NPS parks and regions address highly pathogenic avian influenza, two sets of plans have been developed. The NPS Wildlife Plan includes a Preparedness and Communication section and Response section. The NPS Pandemic Influenza Plan, which addresses the situation when sustained human to human transmission occurs, follows the Wildlife Plan. The decision tree below can be used to determine the appropriate level of action based on the current situation. Note that as long as an increased risk from HPAI occurs in the United States, action should be taken starting with Step 1 of the Wildlife Plan Preparedness and Communication section and continuing through the appropriate portion of the "plan" and "step" identified in the decision tree.

Information on the geographic distribution, species affected, impacts, and appropriate response to HPAI is dynamic and continues to change and expand. Updated information to support these plans will be posted on the NPS website at [http://www.nps.gov/public\\_health/zed/ai/ai.htm](http://www.nps.gov/public_health/zed/ai/ai.htm).

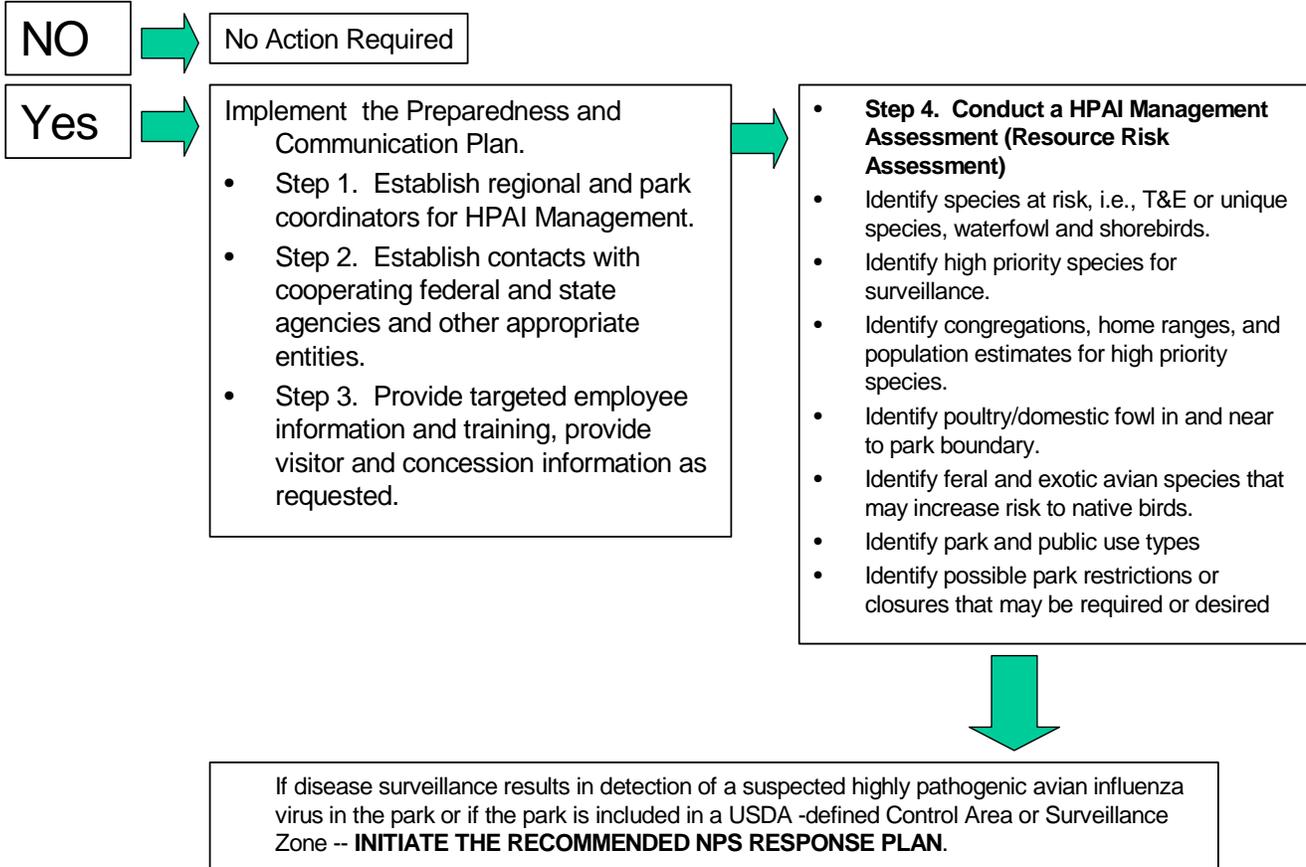
**Highly Pathogenic Avian Influenza Virus Decision Tree.** This decision tree indicates the Plan and Step at which each situation is addressed. Note that steps are progressive in the Wildlife Plan Preparedness and Communication section and, regardless of current situation, if risk exists action should begin at Step 1 of the Preparedness and Communication section of the Wildlife Plan.



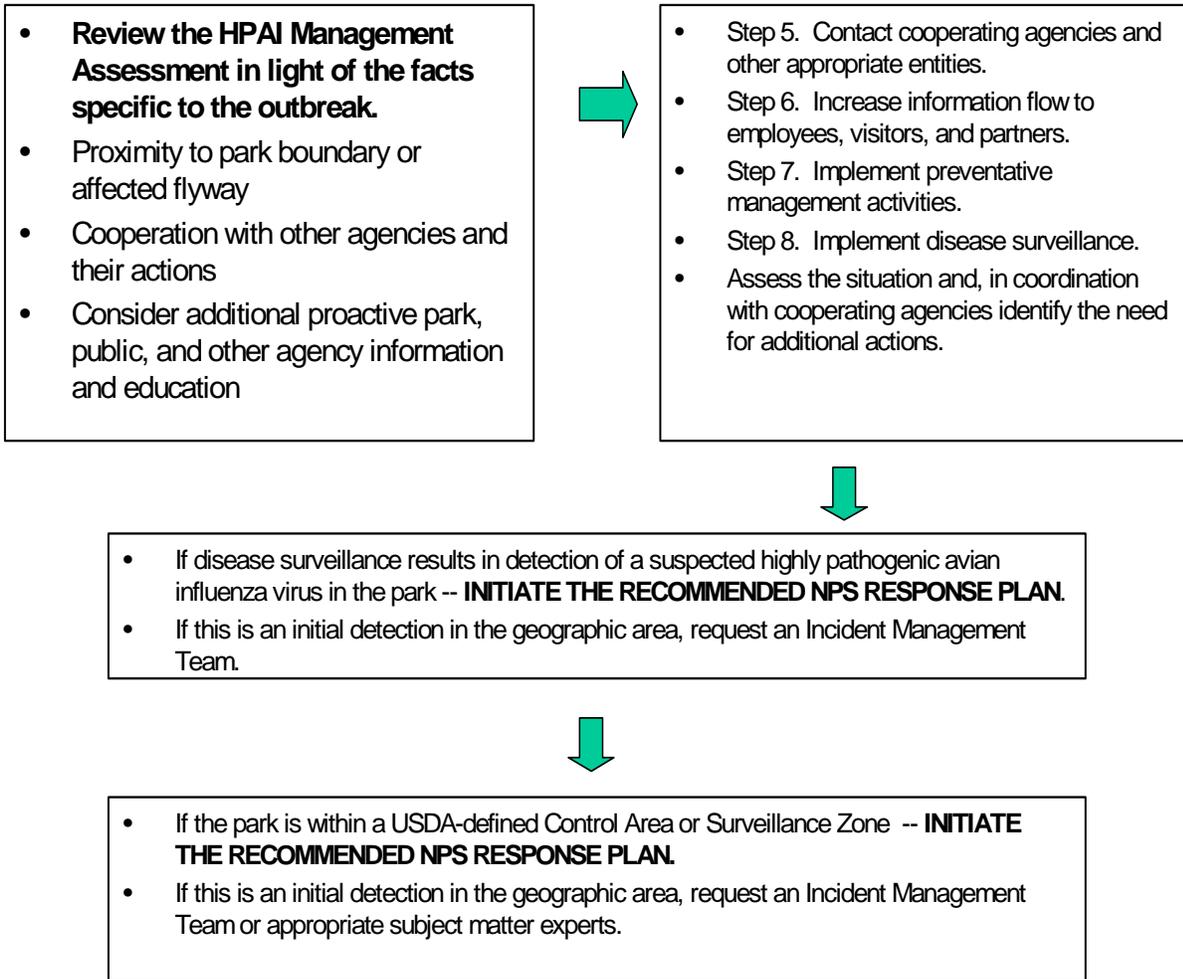
**ACTION FLOWCHART** for Moving Through the Preparedness and Communication Plan and Response Plan

- This action flowchart has been developed to assist or provide guidance to managers in determining when or whether to move from the HPAI preparedness and communication planning stage to the HPAI response stage. This decision is based on the current situation in the area of the park. The process starts with the preparedness and communication plan which is a limited measured response designed to provide park managers with the necessary information to identify and implement appropriate management actions and concerns
- Park Managers should be advised that should a suspect or confirmed case of HPAI be identified in or adjacent to the United States that the USDA, Animal and Plant Health Inspection Service may establish Control Areas and Surveillance Zones which may include units of the National Park Service. Should such Control Areas or Surveillance Zones be established by APHIS, NPS units may be required to go directly to implementing all or portions of the NPS Response Plan. In order to establish and maintain a measured response, communications between NPS and cooperators is essential.

Situation: A highly pathogenic avian influenza virus is identified that has the potential to enter the North American continent, Hawaii, and U.S. Territories through domestic animals, wildlife, humans, contaminated material, or other means.



Situation: Highly pathogenic avian influenza is confirmed to be present in the North American continent, Hawaii, or U.S. Territories or migratory birds arrive via affected flyway.



- **Review the HPAI Management Assessment in light of the facts specific to the outbreak.**
- Proximity to park boundary or affected flyway
- Cooperation with other agencies and their actions
- Consider additional proactive park, public, and other agency information and education

- Step 5. Contact cooperating agencies and other appropriate entities.
- Step 6. Increase information flow to employees, visitors, and partners.
- Step 7. Implement preventative management activities.
- Step 8. Implement disease surveillance.
- Assess the situation and, in coordination with cooperating agencies identify the need for additional actions.

- If disease surveillance results in detection of a suspected highly pathogenic avian influenza virus in the park -- **INITIATE THE RECOMMENDED NPS RESPONSE PLAN.**
- If this is an initial detection in the geographic area, request an Incident Management Team.

- If the park is within a USDA-defined Control Area or Surveillance Zone -- **INITIATE THE RECOMMENDED NPS RESPONSE PLAN.**
- If this is an initial detection in the geographic area, request an Incident Management Team or appropriate subject matter experts.

## PREPARATION

### REFERENCE MATERIAL FOR DETECTING HIGHLY PATHOGENIC AVIAN INFLUENZA

#### Introduction

Worldwide, mortality from the virus has been detected in more than forty species of free-ranging wild birds including swans, ducks, geese, gulls, birds of prey, and some peridomestic species such as sparrows and corvids (view full list at [http://www.nwhc.usgs.gov/disease\\_information/avian\\_influenza/affected\\_species\\_chart.jsp](http://www.nwhc.usgs.gov/disease_information/avian_influenza/affected_species_chart.jsp)). Five surveillance strategies have been identified for collecting monitoring and surveillance data on H5N1 virus in wild birds (Appendix 1). Morbidity and mortality surveillance is the principal surveillance method that will be implemented by NPS and, therefore, the only strategy discussed here.

The systematic investigation of morbidity and mortality events in wild birds to determine if H5N1 is playing a role in causing illness and death offers the highest and earliest probability of detecting the virus if it is introduced by, or to, migratory birds in the U.S. It is important to emphasize that morbidity and mortality events in wild birds can be due to a variety of causes. Diagnostic testing is required to determine cause of death and to refute or confirm infection with HPAI. Further, the detection of an avian influenza virus is not of concern unless it is a highly pathogenic strain, specifically in this case the Asian H5N1 strain. Avian influenza viruses occur naturally in birds, particularly birds that live on and around water. Most of these viruses are of low pathogenicity and cause no harm to the host and no threat to other species.

#### Prioritizing Surveillance Actions

Prioritization of investigation of morbidity and mortality events may vary somewhat with location. But there are two general approaches: identification of unusual mortality events and surveillance of priority species.

Unusual mortality events are wildlife deaths that occur outside the range that is usually observed. Professional judgment, historical knowledge of the areas, and consultation with disease experts may be used to make the determination. Unusual mortality events can take different forms, including increased numbers found dead, duration of mortalities over time, or mortality that occurs at a different place or time of year than expected. Generally, a single dead bird does not constitute an event, however, this observation may initiate monitoring for additional mortalities.

Priority species may be defined as those migrating in from areas where HPAI occurs, or that are of greatest risk of disease. A system for ranking priority species is presented in the Early Detection System for Asian H5N1 Highly Pathogenic Avian Influenza in Wild Migratory Birds—U.S. Interagency Strategic Plan ([http://www.nps.gov/public\\_health/zed/ai/ai.htm](http://www.nps.gov/public_health/zed/ai/ai.htm)). A preliminary list of priority species for HPAI surveillance is included in Appendix 1; however, work is continuing on refining and revising these lists. Based on observations in Europe, it appears that swans are commonly some of the first birds

found dead and diagnosed with HPAI. Therefore, swans may be considered a priority species for surveillance.

### Surveillance Planning and Implementation

Actions necessary to plan and implement morbidity and mortality surveillance for HPAI are summarized in Table 1.

**Table 1. Components of HPAI surveillance and detection activities.**

Action	
Regulatory compliance	<ul style="list-style-type: none"> <li>• Complete necessary NEPA requirements.</li> <li>• Assure appropriate permits.</li> </ul>
Procure sampling/shipping materials	<ul style="list-style-type: none"> <li>• Carcass bags, shipping boxes, ice, disinfectant</li> <li>• PPE</li> <li>• Carcass transportation</li> </ul>
Obtain necessary training for sample collection	<ul style="list-style-type: none"> <li>• Provided by NPS, other DOI bureaus or other cooperators</li> </ul>
Obtain necessary employee health review	<ul style="list-style-type: none"> <li>• Respirator use</li> <li>• Vaccination advisement</li> <li>• Availability of antiviral drugs</li> </ul>
Identify laboratory for sample submission	<ul style="list-style-type: none"> <li>• USGS National Wildlife Health Center</li> <li>• Other veterinary laboratories certified to conduct Asian H5N1 virus diagnostics (confirm with lab)</li> </ul>
Identify priority species	<ul style="list-style-type: none"> <li>• Lists will be developed by Flyway Councils</li> <li>• Bird species migrating from affected areas</li> <li>• Waterfowl and shorebirds</li> <li>• Bird species with high infection rates (currently unknown)</li> </ul>
Reporting system	<ul style="list-style-type: none"> <li>• Identify key contact individuals</li> <li>• Develop system for reporting by employees, visitors, and residents</li> </ul>
Respond to mortality events	<ul style="list-style-type: none"> <li>• Communication of events</li> <li>• Evaluation of importance</li> <li>• Available trained staff</li> <li>• Transportation and logistics</li> </ul>
Implement active surveillance and additional surveillance strategies	<ul style="list-style-type: none"> <li>• As risk increases, seek out mortality events rather than passively awaiting reporting.</li> <li>• Implement other surveillance strategies as needed on a site-specific basis.</li> </ul>

Acquisition of necessary permits from the U.S. Fish and Wildlife Service and completion of National Environmental Policy Act (NEPA) compliance documents should be considered during the planning process. Director's Order 12 includes a categorical exclusion [CE 3.4E(3)] for:

“Removal of individual members of a non-threatened/endangered species or populations of pests and exotic plants that pose imminent danger to visitors or an immediate threat to park resources.”

In order to use the above CE appropriately, there are certain conditions and parameters that must be met. Most importantly, that there are no exemptions to the CE and that an Environmental Screening Form is completed.

Human health protection is a critical element in HPAI surveillance. Appropriate protection of employees and visitors against exposure to HPAI should be followed and will vary with the level of risk (Appendix 2). Personal protective equipment (PPE) and other sampling equipment should be available for response to morbidity and mortality events (Table 2). Only employees trained in wildlife mortality investigation or in direct contact with experts providing direction should handle animal carcasses.

**Table 2. Equipment necessary for wildlife mortality event response.**

PPE	<ul style="list-style-type: none"> <li>• Coveralls</li> <li>• Disposable gloves</li> <li>• Goggles</li> <li>• Respirator</li> <li>• Boots or boot covers</li> </ul>
Sampling equipment	<ul style="list-style-type: none"> <li>• Shipping boxes/coolers</li> <li>• Carcass bags (trash bags)</li> <li>• Packing material</li> <li>• Blue ice or dry ice</li> <li>• Carcass label</li> <li>• Sharpie, tape</li> <li>• FedEx labels</li> <li>• History and submission forms</li> <li>• Disinfectant</li> </ul>

Carcasses can be submitted to the National Wildlife Health Center (NWHC) in Madison, Wisconsin or other laboratories approved for detection of HPAI. Instruction forms for sample submission to the NWHC (and also useful for other labs) are included in Appendix 3. If samples will be submitted to other laboratories, check ahead of time to confirm that submissions will be accepted.

Surveillance should be continued, and likely expanded, after detection of HPAI H5N1 is made in an area. The type of surveillance methods used may be increased beyond morbidity and mortality investigation (Appendix 1). Surveillance may also be broadened to include a wider range of species, including associated avian and mammalian species (specifically carnivores).

## Situations and Actions

### INITIAL RESPONSE: WHAT TO DO IF AN AVIAN INFLUENZA VIRUS IS DETECTED

**DEFINITION:** Detection of any avian influenza virus in a park may trigger initial steps of the Response Plan. However, wild birds commonly carry non-pathogenic strains of avian influenza which, unlike H5N1, are not cause for concern. Confirmatory tests are needed to determine if the strain detected is the Asian H5N1 of concern.

**CONSIDERATIONS:** While awaiting results of laboratory tests to define the avian influenza virus strain detected, park staff is encouraged to implement initial steps of the Response Plan to prepare for response if necessary and to provide transparent communication with partners and the public.

### RECOMMENDED ACTIONS

#### STEP 1: Contact the appropriate animal health officials and cooperating agencies.

If a laboratory detects a suspect H5N1 avian influenza virus in a sample from a park, communication will proceed according to the Department of the Interior Pandemic Influenza Preparedness and Response Plan. Upon notification, the park may contact:

1. Appropriate HPAI coordinators
2. State veterinarian's office (Appendix 5)
3. USDA APHIS area veterinarian-in-charge (AVIC) (Appendix 5)
4. State wildlife agency (Appendix 5)

NPS, DOI, and APHIS may dispatch disease specialists to investigate.

#### STEP 2: If the avian influenza virus detection was from a mortality event, secure the area in accordance with the instructions of the experts contacted in step 1.

Use personal protective equipment and good hygiene practices when handling an HPAI suspect animal. Follow directions of the experts for protecting your health, securing the area, handling and disposing of carcasses, and disinfecting. If possible, simply monitor the area to keep visitors and animals away from the carcasses until trained assistance arrives. Use caution to minimize possible contamination of equipment, vehicle, or yourself with the virus and follow-up with disinfection and avoidance of other susceptible animals.

#### STEP 3: Coordinate initial actions with cooperating agencies.

The DOI and APHIS disease experts will combine initial laboratory test results with history, presentation, and professional experience to classify the suspect as unlikely, possible, or highly likely. Based on this classification and in consultation with the state

veterinarian's office and APHIS AVIC, recommendations will be made to the park. Strongly consider implementing these recommendations until diagnostic tests refute or confirm HPAI.

Begin additional planning by reviewing the Incident Information Checklist and Strategy (Appendix 4). Begin consideration of what the Incident Objectives and Strategies (Appendix 4) might be. Note that there are no data to suggest that culling migratory birds is an effective means to control HPAI. Neither the World Health Organization or the Food and Agriculture Organization of the United Nations recommend culling migratory birds to manage the disease.

Communicate initial actions to NPS, DOI, and, in conjunction with cooperators and in accordance with the DOI Pandemic Influenza Plan, to the media. If HPAI H5N1 is confirmed, implement the full response plan.

## MEASURED RESPONSE: YOUR PARK IS IN A DISEASE SURVEILLANCE ZONE

**DEFINITION:** The park is within the boundaries of a USDA-defined Surveillance Zone but not within the Control Area of a confirmed case of HPAI. The Control Area includes the Infected Zone and Buffer-Surveillance Zone and extends in a radius beyond the affected premises. The Surveillance Zone surrounds the Control Area.

**CONSIDERATIONS:** Park managers are encouraged to implement a measured response based on the park’s assessment of potential disease transmission from the Infected Zone of a confirmed HPAI case. The state veterinarian or APHIS could request parks located within a Surveillance Zone to implement the state’s response plan. Park staff should consider these requests based on the NPS mission, park enabling legislation, other applicable policy, and this Response Plan.

### RECOMMENDED ACTIONS

**STEP 4: Contact cooperating agencies and organizations.**

Contact the appropriate agencies, organizations, or entities (Appendix 5). As part of the Preparedness and Communication Plan, park units have previously identified resources at risk, developed an appropriate contact list specific to their park (Appendix 5), and made introductory notifications to individuals.

Depending on park unit resources at risk, five broad categories may guide the minimum level of contacts that need to be initiated (Table 1).

**Table 1. Categories guiding contacts with other agencies and organizations.**

Resources at risk	Recommended minimum level of contact
No poultry/domestic fowl, wildlife, cultural, or visitor resources/human health at risk	No additional contact needed.
No poultry/domestic fowl, wildlife, or cultural resources at risk but visitor activities/human health at risk	Contact appropriate park, regional, and WASO personnel, including Public Health Program and Risk Management, State Veterinarian, and AVIC for potential closures
Cultural resources at risk plus one or more of the following: poultry/domestic fowl, wildlife, or visitor activities/human health.	Contact appropriate park, regional, and WASO personnel, State Veterinarian, AVIC, and State Historic Preservation Office (SHPO).
Poultry/domestic fowl at risk plus possibly one or more of the following: wildlife, cultural, or visitor activities.	Contact appropriate park, regional, and WASO personnel, including BRMD Wildlife Health Program, State Veterinarian, and AVIC. Additional agencies or entities as needed.
Wildlife at risk plus possibly one or more of the following: poultry/domestic fowl, cultural resources, visitor activities/human health.	Contact park, regional, and WASO personnel, including BRMD Wildlife Health Program, State Veterinarian, AVIC, state wildlife agency contact, and additional agencies or entities.

**STEP 5: Conduct a situation analysis, including incident complexity, and order incident resources as needed.**

- A. Gather as many facts about the incident as possible, using the Situation Analysis form (Appendix 4). Be sure to consider the potential and forecasted effects. Ask yourself, what could happen, as well as what is likely to happen, in the next two weeks? The next month?
- B. Use the “Factors” column on the Incident Complexity Guide form (Appendix 4) to review the facts from the Situation Analysis.
- C. Contact your regional incident management coordinator and discuss the situation. Include type 2 or type 1 incident commanders in the decision process, as appropriate.
- D. Looking at the typical characteristics of each factor, decide which of the characteristics listed under the “type” columns best describes your incident. Remember, no single incident will have all of the factors under just one of the “type” columns.
- E. Determine the complexity based upon the preponderance of factor characteristics identified. See the instructions for the Complexity Guide.
- F. Order incident management team resources as needed. One of the benefits of the Incident Command System is that if the situation changes, you can always transition to a more complex or less complex management structure. You should place the orders through your local or zone dispatch center (same system that is used to order fire resources).
- G. If a full Incident Management Team is not necessary, consider ordering assistance from subject matter experts in wildlife health, wildlife management, public affairs, public health, and risk management. If an Incident Management Team is not available (e.g., due to multiple outbreaks) consider pooling resources within a Region, or among area parks, and using templates of HPAI information developed by other parks.

**STEP 6: Review existing plans and policy documents.**

- A. Review the plans and policy documents applicable to the management of your park. These may include:
  - Enabling legislation
  - Park Strategic Plan
  - Resource Management Plan
  - General Management Plan
  - Concessions Plans, Agreements and Contracts
  - Visitor Service Plans

- Compliance Policies
- Land Protection Plans
- Cooperative Agreements

B. Consult with your park's legal, policy, and technical experts to determine the appropriate management approach to the situation. Ultimately, however, consultation between the Secretaries of Agriculture and the Interior under the Animal Health Protection Act may assign disease management authority.

<b>STEP 7: Take actions in coordination with cooperating agencies.</b>
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- A. Work with cooperating agencies to determine the appropriate actions. Note that there are no data to suggest that culling migratory birds is an effective means to control HPAI. Neither the World Health Organization or the Food and Agriculture Organization of the United Nations recommend culling migratory birds to manage HPAI.
- B. Potential objectives.
- Control spread of highly pathogenic avian influenza.
  - Provide for the safety of the public, agency and incident personnel.
  - Minimize negative impacts to private and public property, resources, recreation, businesses, and individuals.
  - Provide accurate and timely information to agency and incident personnel and the public.
  - Keep costs commensurate with incident needs.
- C. Potential strategies.
- Provide education to workers, residents and the public.
  - Implement health monitoring of wildlife responders.
  - Enact USDA-defined Control Areas or Surveillance Zones.
  - Eliminate or enclose poultry and domestic fowl in disease zones.
  - Control feral and non-native species in or near disease zones.
  - Limit the movement of animals in or near disease zones.
  - Vaccinate birds in or near the disease zones (likely limited to T&E species).
  - Reduce artificial concentrations of wild birds in disease zones.
  - Continue or expand surveillance for HPAI in wild birds, and high risk mammalian species.

Refer to the "Sample Incident Objectives and Strategies" (Appendix 4) for more complete information and management approaches.

**FULL RESPONSE: YOUR PARK IS IN A DISEASE CONTROL AREA**

**DEFINITION:** The park is within the boundaries of a USDA-defined Control Area, i.e., when HPAI H5N1 is confirmed within park boundaries or a part of the park falls within an Infected Zone or Buffer-Surveillance Zone from a case outside the park.

**CONSIDERATIONS:** The state veterinarian or APHIS could request the park located within a Control Area to implement the state’s response plan. Park staff should consider these requests based on the NPS mission, park enabling legislation, other applicable policy, and this Response Plan.

**RECOMMENDED ACTIONS**

**STEP 8: Notify cooperating agencies and organizations.**

Contact the appropriate agencies, organizations, or entities (Appendix 5). As part of the Preparedness and Communication Plan, park units have previously identified resources at risk, developed an appropriate contact list specific to their park (Appendix 5), and made introductory notifications to individuals.

Depending on park unit resources at risk, five broad categories may guide the minimum level of contacts to initiate (Table 2). Minimal contacts should include the park, regional, and WASO HPAI coordinators, state veterinarians, and APHIS AVIC. The park HPAI coordinators may recommend additional contacts depending on discussions with a park staff and a park unit’s visitor and resource situation.

**Table 2. Categories guiding contacts with other agencies and organizations.**

<b>Resources at risk</b>	<b>Recommended minimum level of contact</b>
No poultry/domestic fowl, wildlife, cultural, or visitor resources/human health at risk	No additional contact needed.
No poultry/domestic fowl, wildlife, or cultural resources at risk but visitor activities/human health at risk	Contact appropriate park, regional, and WASO personnel, including Public Health Program and Risk Management, State Veterinarian, and AVIC for potential closures
Cultural resources at risk plus one or more of the following: poultry/domestic fowl, wildlife, or visitor activities/human health.	Contact appropriate park, regional, and WASO personnel, State Veterinarian, AVIC, and State Historic Preservation Office (SHPO).
Poultry/domestic fowl at risk plus possibly one or more of the following: wildlife, cultural, or visitor activities.	Contact appropriate park, regional, and WASO personnel, including BRMD Wildlife Health Program, State Veterinarian, and AVIC. Additional agencies or entities as needed.
Wildlife at risk plus possibly one or more of the following: poultry/domestic fowl, cultural resources, visitor activities/human health.	Contact park, regional, and WASO personnel, including BRMD Wildlife Health Program, State Veterinarian, AVIC, state wildlife agency contact, and additional agencies or entities.

**STEP 9: Conduct a situation analysis, including incident complexity, and order incident resources, including an Incident Management Team if needed.**

- A. Gather as many facts about the incident as possible, using the Situation Analysis form (Appendix 4). Be sure to consider the potential and forecasted effects. Ask yourself, what could happen, as well as what is likely to happen, in the next two weeks? The next month?
- B. Use the “Factors” column on the Incident Complexity Guide form (Appendix 4) to review the facts from the Situation Analysis.
- C. Contact your regional incident management coordinator and discuss the situation. Include type 2 or type 1 incident commanders in the decision process, as appropriate.
- D. Looking at the typical characteristics of each factor, decide which of the characteristics listed under the “type” columns best describes your incident. Remember, no single incident will have all of the factors under just one of the “type” columns.
- E. Determine the complexity based upon the preponderance of factor characteristics identified. See the instructions for the Complexity Guide.
- F. Order incident management team resources as needed. One of the benefits of the Incident Command System is that if the situation changes, you can always transition to a more complex or less complex management structure. You should place the orders through your local or zone dispatch center (same system that is used to order fire resources).
- G. If an Incident Management Team is not necessary, consider ordering assistance from subject matter experts in wildlife health, wildlife management, public affairs, public health, and risk management. If an Incident Management Team is not available (e.g., due to multiple outbreaks) consider pooling resources within a Region, or among area parks, and using templates of HPAI information developed by other parks.

**STEP 10: Take initial containment actions in coordination with cooperating agencies.**

- A. Work with cooperating agencies to determine the appropriate actions. Note that there are no data to suggest that culling migratory birds is an effective means to control HPAI. Neither the World Health Organization or the Food and Agriculture Organization of the United Nations recommend culling migratory birds to manage HPAI.
- B. Potential objectives.
  - Control and/or eradicate this outbreak of highly pathogenic avian influenza.

- Provide for the safety of the public, agency and incident personnel.
- Minimize negative impacts to private and public property, resources, recreation, businesses, and individuals.
- Provide accurate and timely information to agency and incident personnel and the public.
- Keep costs commensurate with incident needs.

#### C. Potential strategies.

- Provide education to workers, residents and the public.
- Implement health monitoring of wildlife responders.
- Establish infected and surveillance/movement control zones.
- Eliminate or enclose poultry and domestic fowl in disease zones.
- Control feral and non-native species in or near disease zones.
- Close areas in or near the established disease zones.
- Restrict human travel, activities and uses in or near disease zones.
- Limit the movement of animals in or near disease zones.
- Require the decontamination of humans, equipment and other property being used in management actions in disease zones.
- Vaccinate birds in or near the disease zones (likely limited to T&E species).
- Reduce artificial concentrations of wild birds in disease zones.
- Continue or expand surveillance for HPAI in wild birds, and high risk mammalian species.

Refer to the “Sample Incident Objectives and Strategies” (Appendix 4) for more complete information and management approaches.

<p><b>STEP 11: Manage the incident in accordance with law, policy, and management goals.</b></p>
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#### A. Review the plans and policy documents that are applicable to the management of your park. These may include:

- Enabling legislation
  - Park Strategic Plan
  - Resource Management Plan
  - General Management Plan
  - Concessions Plans, Agreements and Contracts
  - Visitor Service Plans
  - Compliance Policies
  - Land Protection Plans
  - Cooperative Agreements
- Consult with legal, policy, and technical experts to determine your park’s appropriate management approach to the situation. Ultimately, however, consultation between

the Secretaries of Agriculture and the Interior under the Animal Health Protection Act may assign disease management authority.

- B. Complete a written Delegation of Authority for the incoming Incident Commander (see sample, Appendix 4). Be sure to include all critical policy and management considerations in the document. *NOTE:* This plan recommends managing an outbreak incident under unified command with the other agencies (such as APHIS) and the sample delegation is written from that perspective. However, if other agencies do not wish to operate under unified command, the delegation should be rewritten to reflect only NPS interests.
- C. The Agency Administrator (Park Superintendent) and the initial Incident Commander (IC) should brief the incoming IC or Incident Management Team (IMT). The Superintendent's briefing should focus on management considerations. The initial IC's briefing would normally be more concerned with field issues.
- D. Park staff should work with the IMT to properly manage the incident. Additional materials that can assist incident management personnel are provided in Appendix 4 of this plan.

## **APPENDIX 1 - Surveillance for Highly Pathogenic Avian Influenza Subtype H5N1**

### **Surveillance Strategies**

Five strategies for collecting monitoring and surveillance data on Asian H5N1 virus in wild birds have been suggested (See An Early Detection System for Asian H5N1 Highly Pathogenic Avian Influenza in Wild Migratory Birds—U.S. Interagency Strategic Plan). The NPS is implementing investigation of morbidity and mortality events, at minimum. Determination of necessity for implementation of other surveillance strategies may be made on a site-specific basis.

### Investigation of Morbidity/Mortality Events

Over 40 species of wild birds have been shown to be susceptible to infection with Asian H5N1 virus. While not all species infected necessarily exhibit disease, the current strain(s) of H5N1 circulating in Asia have been shown to cause morbidity and mortality in a wide variety of these species. The systematic investigation of morbidity and mortality events in wild birds to determine if Asian H5N1 is playing a role in causing illness and death offers the highest and earliest probability of detecting the virus if it is introduced by migratory birds into the United States. State natural resource agencies and Federal refuges and parks, primarily within the DOI's U.S. Fish and Wildlife Service National Wildlife Refuge System and the National Park Service, are the principal authorities in a position to detect and respond to mortality events involving wild birds. Morbidity and mortality events involving wildlife are often detected by, or reported to, these agencies and entities. This strategy capitalizes on an existing morbidity/mortality program being conducted by DOI and its partners.

### Surveillance in Live Wild Birds

This strategy incorporates sampling of live-captured, apparently healthy wild birds to detect the presence of Asian H5N1 virus. This effort will select bird species in North America that represent the highest risk of being exposed to, or infected with, Asian H5N1 virus because of their migratory movement patterns, which include birds that migrate directly between Asia and North America, or birds that may be in contact with species from areas in Asia with reported outbreaks. Should Asian H5N1 virus be detected in domestic birds in the U.S., sampling of wild birds in the flyway in the affected area may become a high priority as well. Data collected by organizations currently conducting research and monitoring for avian influenza in Alaska will be incorporated with additional bird captures as necessary to provide a broad species and geographic surveillance effort. This strategy capitalizes on research activities currently being conducted by DOI, USDA and their partners.

### Surveillance in Hunter-killed Birds

Check stations for waterfowl hunting are operated by the US Fish and Wildlife Service and state natural resource agencies. Hunter check stations provide an opportunity to collect additional samples to determine the presence of HPAI and other subtypes of avian influenza viruses and supplement data collected during surveillance of live wild birds. As with surveillance of live wild birds, sampling of hunter-killed birds will focus on hunted species that are most likely to be exposed to HPAI in Asia; have relatively direct

migratory pathways from those areas to the U.S. via Alaska or directly to the Pacific Coast; mix in Alaska staging areas with species that could bring the virus from Asia; or should HPAI be detected in domestic birds in the U.S., may mix with wild birds in the flyway of the affected area. Collection of samples from these species will occur at hunter check stations in the lower 48 states during hunting seasons in areas where these birds stage during migration or over-wintering.

### Sentinel Species

Waterfowl, exhibition gamefowl, and poultry flocks reared on backyard premises have been used as sentinels for active surveillance for avian diseases of interest to the commercial poultry industry and regulatory agencies. Currently in Alaska, the State veterinarian uses targeted surveillance of domestic flocks at concentration points due to remote location of villages and lack of resources; enthusiasts travel to poultry exhibitions with birds from distant locations; and surveillance effectively covers a large geographic area. Enhancement of this approach would be valuable. However, placement of sentinel ducks in strategic locations may also prove useful. Placement of sentinel ducks has been used successfully for surveillance of diseases of importance to the poultry industry, including influenza A. Also, sentinel ducks in wild pelagic bird colonies improved virus detection rates fivefold, suggesting that this approach is advantageous in ecological studies.

### Environmental Sampling

Avian influenza viruses are generally released by waterfowl through the intestinal tract and viable virus can be detected in both feces and the water in which the birds swim, defecate and feed. This is the principal means of virus spread to new avian hosts and potentially to poultry, other livestock, and humans. Analysis of both water and fecal material from waterfowl habitat can provide evidence of AI circulating in wild bird populations, the specific AI subtypes, levels of pathogenicity, and possible risks to humans and livestock. Monitoring of water and/or fecal samples gathered from waterfowl habitat is a reasonably cost effective, technologically achievable means to assess risks to humans and poultry.

### **Priority Species**

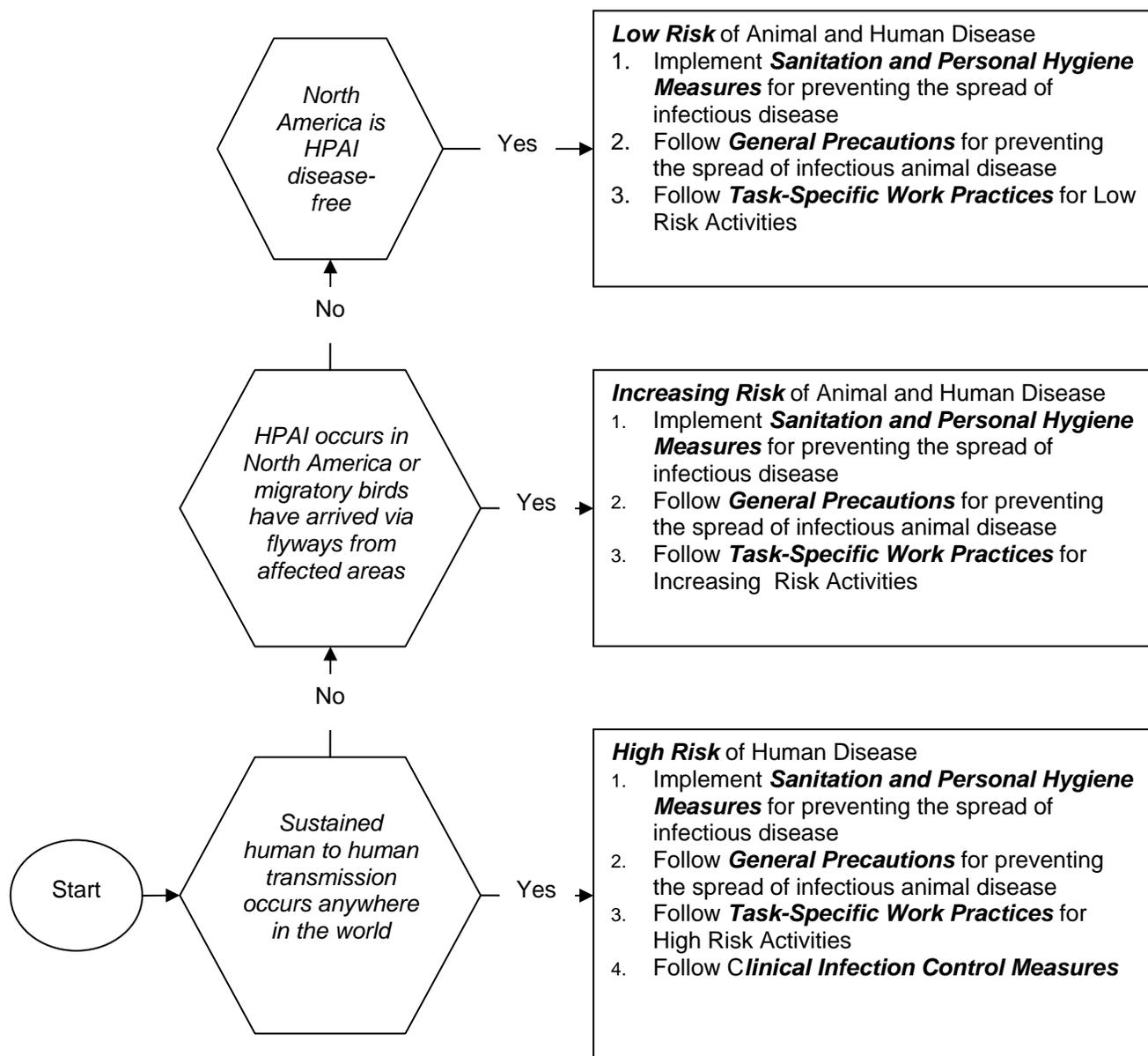
The table below lists suggested priority species for surveillance as reported in the Early Detection System for Asian H5N1 Highly Pathogenic Avian Influenza in Wild Migratory Birds—U.S. Interagency Strategic Plan.

<b><u>Pacific Flyway</u></b>	
<b>Taxon</b>	<b>Ranking</b>
Tundra Swan (Western Population)	Primary
Lesser Snow Goose (Wrangel Island Population)	Primary
Northern Pintail	Primary
Long-billed Dowitcher	Primary
Red Knot (small numbers)	Primary
Pacific Golden Plover (small numbers)	Primary
Ruddy Turnstone (very small numbers)	Primary
Black Brant (Pacific Population)	Secondary
Cackling Goose	Secondary

Pacific Greater White-fronted Goose	Secondary
Mallard	Secondary
American Wigeon	Secondary
American Green-winged Teal	Secondary
Northern Shoveler	Secondary
<b>Central Flyway</b>	
Lesser Sandhill Crane (Mid-continent)	Primary
Tundra Swan (Eastern Population)	Primary
Northern Pintail (low percentage from Alaska)	Primary
Pectoral Sandpiper	Primary
Buff-breasted Sandpiper	Primary
Long-billed Dowitcher	Primary
Greater White-fronted Goose (Mid-continent)	Secondary
Lesser Snow Goose (Western Central Flyway)	Secondary
Mallard	Secondary
American Wigeon	Secondary
American Green-winged Teal	Secondary
Northern Shoveler	Secondary
<b>Mississippi Flyway</b>	
Pectoral Sandpiper	Primary
Dunlin	Primary
Long-billed Dowitcher	Primary
Greater White-fronted Goose	Secondary
Northern Pintail	Secondary
Mallard	Secondary
American Wigeon	Secondary
American Green-winged Teal	Secondary
Northern Shoveler	Secondary
Lesser Scaup	Secondary
Greater Yellow-legs	Secondary
Lesser Yellow-legs	Secondary
Ruddy Turnstone	Secondary
Gray-cheeked Thrush	Secondary
<b>Atlantic Flyway</b>	
Tundra Swan (Eastern Population)	Primary
Greater Scaup	Primary
Horned Grebe (possibly Europe/Greenland breeders)	Primary
Lesser Scaup	Secondary
Canvasback	Secondary
Long-tailed Duck (unknown east-west interchange)	Secondary
Western Sandpiper	Secondary
Least Sandpiper (do not breed in Asia)	Secondary
Greater Yellow-legs (do not breed in Asia)	Secondary
Black-bellied Plover	Secondary

## APPENDIX 2. Protecting Employees and Visitors Against Exposure to HPAI H5N1.

Our protective strategy is to minimize exposure to virus through strict adherence to sanitation and personal hygiene practices and to create barriers that will isolate us from the source of virus. What specific personal protective ensemble should be worn and what work practices should be followed will depend on circumstances and the nature of your activities.



### 1. **Sanitation and personal hygiene** measure for preventing the spread of infectious disease:

1. All employees should practice sanitation and personal hygiene measures to lessen the spread of infectious disease. These measures include proper hand washing, cleaning and sanitizing our tools and work areas, and cough etiquette.

#### Personal Hygiene and Hand Washing.

All employees should be educated about the importance of hand washing in controlling disease transmission. Hands should be washed for 10-15 seconds after contact with contaminated surfaces, after

sneezing, using the bathroom, handling garbage, contact with wildlife, soils and similar activities, and before preparing or eating food, smoking, drinking, applying cosmetics, lip balms, or lotions. The idea here is to disrupt the direct connection between a source of contamination and your vulnerable mucous membranes (eyes, nose, or mouth).

Proper hand washing means:

- First wet your hands and apply liquid or clean bar soap. Place the bar soap on a rack and allow it to drain.
- Next rub your hands vigorously together and scrub all surfaces.
- Continue for 10 - 15 seconds. It is the soap combined with the scrubbing action that helps dislodge and remove germs.
- Rinse well and dry your hands.

Alcohol sanitizing hand rubs or sanitizing cloths may be used as a temporary solution when hand washing facilities are not available. Portable field hand washing facilities are easily rigged and transported.

Always wash your hands after removing protective gloves.

#### Cleaning and Sanitizing.

Keep tools and work areas free of virus contamination. Surfaces should be cleaned with detergent and water and then sanitized.

Useful sanitizing solutions include:

- a. 1% solution of household bleach (5.25% sodium hypochlorite stock solution) for hard, non-porous surfaces. Use 1.25 oz or about 8 teaspoons regular household bleach in one gallon of water. Note: Bleach is corrosive to metal surfaces and if used should be rinsed.
- b. 5% solution of household bleach (5.25% sodium hypochlorite stock solution) for porous surfaces. Use 6.5 oz regular household bleach in one gallon of water. Note: Bleach is corrosive to metal surfaces and if used should be rinsed.
- c. 5% hospital-grade Lysol®
- d. other EPA-approved disinfectants

#### Cough and Sneeze Etiquette.

This measure will become critically important if HPAI develops sustained human to human transmission through droplet transmission. Cough etiquette procedures should be practiced to limit the spread of colds and seasonal influenza and to create good hygiene habits.

- Cover your mouth and nose with a tissue when you cough or sneeze, or cough or sneeze into your upper sleeve, not your hands. This limits the dispersal of infectious droplets in the air.
- Put the used tissue in the waste basket
- Clean your hands with soap and water or with an alcohol-based hand cleaner. This will decrease the spread of germs from hands and surfaces.

## **2. *General precautions* for preventing the spread of infectious animal diseases:**

Whenever employees handle animals or work around them or become intimate with their habitat they should follow these General Precautions for preventing the spread of infectious animal diseases:

- Do not eat, drink or smoke, or any other activity which puts your hands in or near your eyes, nose or mouth while handling animals and until you can wash your hands.
- Avoid unnecessary contact with animals or animal tissue.
- Provide barriers to exposure such as gloves, goggles, or aprons. Specific recommendations for barriers are provided in section 3, below.
- Wash hands after contact with animals or contaminated surfaces.
- Obtain standard vaccinations, including vaccination for seasonal influenza.

The strategy of avoidance, spatial isolation, barriers, and hygiene also applies to park visitors, the public, and employees that do not (or should not) have direct contact with wildlife. For this group precautions should be emphasized in this way:

- Observe wildlife, including wild birds, from a distance. This protects you from the possible exposure to pathogens and minimizes disturbance to the animal.
- Avoid touching wildlife. If there is contact with wildlife, do not rub your eyes, eat, drink, or smoke before washing your hands with soap and water.
- **Do not pick up diseased or dead wildlife.** If a sick or dead animal is found, contact the park wildlife resources manager or a park ranger.

### 3. Task-Specific Work Practices

Some of activities will put workers in direct contact with wildlife. When this occurs you must follow protective measure geared specifically to your task and the exposure risk it creates.

Low Risk Activities. HPAI is not known to occur in North America.

While absence of HPAI in North America suggests a low risk, the following recommendations (based on USGS bulletin at [http://www.nwhc.usgs.gov/publications/wildlife\\_health\\_bulletins/WHB\\_05\\_03.jsp](http://www.nwhc.usgs.gov/publications/wildlife_health_bulletins/WHB_05_03.jsp)) should be followed for use of personal protective clothing which provides barriers and isolates the worker from possible sources of disease causing organisms in general and safe work practices which emphasize hygiene and sanitation.

If I am a...	...and my activities require me to...	...I should wear this Personal Protective Ensemble (PPE)...	...and follow these Safe Work Practices...
<b>Hunter or Subsistence User</b>	handle and prepare game	<ul style="list-style-type: none"> <li>• Rubber, pvc, nitrile, or latex* gloves. Reusable gloves must be disinfected after use.</li> <li>• Goggles or a face shield is recommended while processing game.</li> </ul>	<ul style="list-style-type: none"> <li>• Do not handle or eat sick game.</li> <li>• Wash hands after handling animals</li> <li>• Thoroughly clean and disinfect knives, equipment, work surfaces and PPE that come in contact with game.</li> <li>• Cook game well done or to an internal temperature of at least 160° F).</li> </ul>
<b>Biologist or Ranger</b>	handle apparently healthy wild birds	<ul style="list-style-type: none"> <li>• Rubber, pvc, nitrile, or latex gloves.</li> </ul>	<ul style="list-style-type: none"> <li>• Work in well-ventilated areas if working indoors.</li> <li>• Disinfect work surfaces and equipment between sites and when tasks are complete.</li> <li>• Wash hands after handling animals</li> </ul>
<b>Biologist or Ranger</b>	handle sick or dead birds or tissue associated with an unusual mortality event	<ul style="list-style-type: none"> <li>• Rubber, pvc, nitrile, or latex gloves.</li> <li>• Goggles</li> <li>• NIOSH approved particulate respirator, N95 or better.</li> <li>• Coveralls,</li> <li>• Rubber boots or boot covers</li> </ul>	<ul style="list-style-type: none"> <li>• Work in well-ventilated areas if working indoors.</li> <li>• Disinfect work surfaces and equipment between sites and when tasks are complete.</li> <li>• Properly dispose of potentially infectious material including carcasses.</li> <li>• Wash hands after handling animals</li> </ul>

\*Caution: For some workers, contact with latex can result in allergic reactions.

**Increasing Risk Activities.** HPAI occurs in North America or migratory birds have arrived via flyways from affected areas or work with wild birds in areas where HPAI has been detected.

Once HPAI occurs in North America or migratory birds have arrived via flyways from affected areas or you work with wild birds in areas where HPAI has been detected, your risk of exposure will increase and consequently, you must increase your protections.

If I am a...	...and my activities require me to...	...I should wear this Personal Protective Ensemble (PPE)...	...and follow these Safe Work Practices...
<b>Hunter or Subsistence User</b>	handle and prepare game	<ul style="list-style-type: none"> <li>• Rubber, pvc, nitrile, or latex* gloves. Reusable gloves must be disinfected after use.</li> <li>• Goggles or a face shield is recommended while processing game.</li> </ul>	<ul style="list-style-type: none"> <li>• Do not handle or eat sick game.</li> <li>• Wash hands after handling animals</li> <li>• Thoroughly clean and disinfect knives, equipment, work surfaces and PPE that come in contact with game.</li> <li>• Cook game well done or to an internal temperature of at least 160° F).</li> </ul>
<b>Biologist or Ranger</b>	handle apparently healthy wild birds	<ul style="list-style-type: none"> <li>• Rubber, pvc, nitrile, or latex gloves.</li> </ul>	<ul style="list-style-type: none"> <li>• Work outdoors or in well-ventilated areas if working indoors.</li> <li>• Disinfect work surfaces and equipment between sites and when tasks are complete.</li> <li>• wash hands after handling animals</li> </ul>
<b>Biologist or Ranger</b>	handle sick or dead birds or tissue associated with an unusual mortality event	<ul style="list-style-type: none"> <li>• Rubber, pvc, nitrile, or latex gloves.</li> <li>• Goggles</li> <li>• NIOSH approved particulate respirator, N95 or better.</li> <li>• Coveralls,</li> <li>• Rubber boots or boot covers</li> </ul>	<ul style="list-style-type: none"> <li>• Work outdoors or in well-ventilated areas if working indoors.</li> <li>• Disinfect work surfaces and equipment between sites and when tasks are complete.</li> <li>• Properly dispose of potentially infectious tissues and carcasses.</li> <li>• Wash hands after handling animals</li> <li>• Monitor your health for clinical signs of influenza infection during and for one week after your last exposure to potentially HPAI virus-infected or exposed birds.</li> <li>• Contact your healthcare provider if you develop fever, flu-like symptoms or conjunctivitis and inform them prior to arrival that you have potentially been exposed to HPAI.</li> </ul>
<b>Biologist, Public Health Officer, or other employee</b> working with agricultural, public health or similar authority	participate in animal disease control operations	<ul style="list-style-type: none"> <li>• Rubber, pvc, nitrile, or latex gloves.</li> <li>• Goggles</li> <li>• NIOSH approved particulate respirator, N95 or better</li> <li>• Coveralls</li> <li>• Rubber boots or boot covers</li> </ul>	<ul style="list-style-type: none"> <li>• Work outdoors or in well-ventilated areas if working indoors.</li> <li>• Disinfect work surfaces and equipment between sites and when tasks are complete.</li> <li>• Properly dispose of potentially infectious tissues and carcasses.</li> <li>• Wash hands after handling animals</li> <li>• Receive an influenza antiviral drug daily for the duration of time during which direct contact with infected poultry or contaminated surfaces occurs.</li> <li>• Monitor your health for clinical signs of influenza infection during and for one week after your last exposure to potentially HPAI virus-infected or exposed birds.</li> <li>• Contact your healthcare provider if you develop fever, flu-like symptoms or conjunctivitis and inform them prior to arrival that you have potentially been exposed to HPAI.</li> </ul>

\*Caution: For some workers, contact with latex can result in allergic reactions.

Guidelines based on USGS Wildlife Health Bulletin at [http://www.nwhc.usgs.gov/publications/wildlife\\_health\\_bulletins/WHB\\_05\\_03.jsp](http://www.nwhc.usgs.gov/publications/wildlife_health_bulletins/WHB_05_03.jsp)

You should note that once your activities place you at risk of exposure to HPAI, stringent barrier protections and strict adherence to hygiene and sanitation practices is required. For workers that are involved in handling dead or ill birds while investigating a mortality event where HPAI occurs, as well as for employees that may be directly involved in animal disease control operations such as culling domestic flocks, there are additional requirements for health care and health care monitoring. For these employees, daily antiviral medications are indicated. In addition, these employees should self monitor for symptoms of influenza infection for one week after their last exposure to potentially HPAI-infected birds. If symptoms are detected, employees should immediately contact their healthcare provider.

Special precautions are required for the laboratory personnel that will process wildlife samples. Their work will generally be conducted under Biosafety Level 3+ laboratory conditions.

**High Risk Activities.** Sustained human to human transmission of HPAI occurs anywhere in the world. If sustained human to human transition occurs, our strategy of maintaining barriers and isolating ourselves from sources of infection and decreasing exposure potential through sanitation and hygiene will continue, but with emphasis on human to human rather than animal to human contact. Specific PPE and work practices for employees at high risk, such as emergency service providers, must be followed.

If I am a...	...and...	...I should wear this Personal Protective Ensemble (PPE)...	...and follow these Safe Work Practices...
<b>Emergency Services Provider or Law Enforcement Ranger</b>	Have close contact with symptomatic and asymptomatic public suspected of HPAI infection	<ul style="list-style-type: none"> <li>• NIOSH approved particulate respirator, N95 or better</li> <li>• Use gloves and gown for all patient contact.</li> <li>• Goggles or face shields</li> </ul>	<ul style="list-style-type: none"> <li>• During periods of increased respiratory infection activity in the community offer masks to persons who are coughing.</li> <li>• When space permits, encourage coughing persons to sit at least three feet away from others.</li> </ul>
<b>Emergency Medical Services Provider, medical clinician, or Emergency Services Provider</b>	Attend to or transport patients who present with fever and respiratory symptoms	<ul style="list-style-type: none"> <li>• NIOSH approved particulate respirator, N95 or better</li> <li>• Use gloves and gown for all patient contact.</li> <li>• Goggles or face shields</li> <li>• Use dedicated equipment such as stethoscopes, disposable blood pressure cuffs, disposable thermometers, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Manage patients according to recommendations for <a href="http://www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm">Respiratory Hygiene and Cough Etiquette</a> (<a href="http://www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm">http://www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm</a>) and question regarding their recent travel history.</li> <li>• Patients with a history of travel within 10 days to a country with avian influenza activity and are hospitalized with a severe febrile respiratory illness, or are otherwise under evaluation for avian influenza, should be managed using isolation precautions.</li> <li>• Practice <b>Standard Precautions</b>. Pay careful attention to hand hygiene before and after all patient contact or contact with items potentially contaminated with respiratory secretions.</li> <li>• Practice <b>Droplet, Contact and Airborne Precautions</b>.</li> </ul>

#### 4. *Clinical Infection Control Measures*

**Standard Precautions.** Use Standard Precautions, or the equivalent, for the care of all patients.

A detailed discussion of these precautions can be found at

[http://www.cdc.gov/ncidod/dhqp/gl\\_isolation\\_standard.html](http://www.cdc.gov/ncidod/dhqp/gl_isolation_standard.html). These precautions include:

- Hand washing
- Use of personal protective equipment including gloves, respirators, eye and face protection, and splash protection
- Patient care equipment
- Environmental control
- Laundry
- Specific infection control measures
- Patient placement

#### ***Droplet Precautions and Airborne Precautions***

Droplet transmission involves contact of the conjunctivae or the mucous membranes of the nose or mouth of a susceptible person with large-particle droplets (larger than 5 µm in size). Droplets are generated from the source person primarily during coughing, sneezing, or talking and during the performance of certain procedures such as suctioning and bronchoscopy. Transmission via large-particle droplets requires close contact between source and recipient persons, because droplets do not remain suspended in the air and generally travel only short distances, usually 3 ft or less, through the air. Because droplets do not remain suspended in the air, special air handling and ventilation are not required to prevent droplet transmission. Droplet Precautions apply to any patient known or suspected to be infected with epidemiologically important pathogens that can be transmitted by infectious droplets. A detailed discussion of these precautions can be found at [http://www.cdc.gov/ncidod/dhqp/gl\\_isolation\\_droplet.html](http://www.cdc.gov/ncidod/dhqp/gl_isolation_droplet.html).

Airborne transmission occurs by dissemination of either airborne droplet nuclei (small-particle residue [5 µm or smaller in size] of evaporated droplets that may remain suspended in the air for long periods of time) or dust particles containing the infectious agent. Microorganisms carried in this manner can be dispersed widely by air currents and may become inhaled by or deposited on a susceptible host within the same room or over a longer distance from the source patient, depending on environmental factors; therefore, special air handling and ventilation are required to prevent airborne transmission. A detailed discussion of these precautions can be found at [http://www.cdc.gov/ncidod/dhqp/gl\\_isolation\\_airborne.html](http://www.cdc.gov/ncidod/dhqp/gl_isolation_airborne.html). Droplet and airborne precautions include:

- Patient placement and masking
- Use of respirators
- Patient transport

#### ***Contact Precautions***

Direct-contact transmission involves skin-to-skin contact and physical transfer of virus to a susceptible host from an infected person. Indirect-contact transmission involves contact of a susceptible host with a contaminated intermediate object, usually inanimate, in the patient's environment. A detailed discussion of these precautions can be found at

[http://www.cdc.gov/ncidod/dhqp/gl\\_isolation\\_contact.html](http://www.cdc.gov/ncidod/dhqp/gl_isolation_contact.html). These precautions include:

- Patient placement
- Use of gloves and hand washing
- Gowns

- Patient transport
- Patient-care equipment

### ***Surveillance and Monitoring of Workers***

Instruct workers to be vigilant for the development of fever, respiratory symptoms, and/or conjunctivitis (i.e., eye infections) for 1 week after last exposure to avian influenza-infected or exposed birds or to potentially avian influenza-contaminated environmental surfaces.

Individuals who become ill should seek medical care and, prior to arrival, notify their health care provider that they may have been exposed to avian influenza. In addition, employees should notify their health and safety representative.

With the exception of visiting a health care provider, individuals who become ill should be advised to stay home until 24 hours after resolution of fever, unless an alternative diagnosis is established or diagnostic test results indicate the patient is not infected with influenza A virus. While at home, ill persons should practice good respiratory and hand hygiene to lower the risk of transmission of virus to others. For more information, visit CDC's "[Cover Your Cough](http://www.cdc.gov/flu/protect/covercough.htm)" website at <http://www.cdc.gov/flu/protect/covercough.htm>.



Population at risk: (Number of animals in the area that could be exposed to the disease.)

Population movement: (Recent changes in the number of animals on the area and their source or destination, if known.)

Problem area description: (Land use, habitat types, and other distinctive features.)

Comments: (Additional information/observations that may be of value such as past occurrences of disease in area.)

**PLEASE USE ADDITIONAL SHEETS AS NECESSARY.**

## INSTRUCTIONS FOR COLLECTION AND SHIPMENT OF AVIAN AND MAMMALIAN CARCASSES

Please follow these instructions for collecting and shipping carcasses to the National Wildlife Health Center (NWHC) to insure adequate and well preserved specimens, and compliance with Federal shipping regulations.

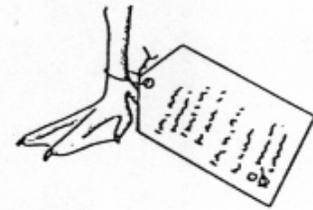
1. More than one disease may be affecting the population simultaneously. When possible, collection of both sick and freshly dead animals increases chances for detecting most diseases. Collect and ship specimens representative of all species and geographic areas.

Obtain good specimens for necropsy. Carcasses that are decomposed or scavenged are usually of limited diagnostic value. Ideally, one should collect a combination of freshly dead animals and animals that were euthanized after their behavior is observed and recorded.

2. Collect animals under the assumption that an infectious disease or toxin is involved and other animals may be at risk. Remember to protect yourself as some of these diseases and toxins are hazardous to humans.

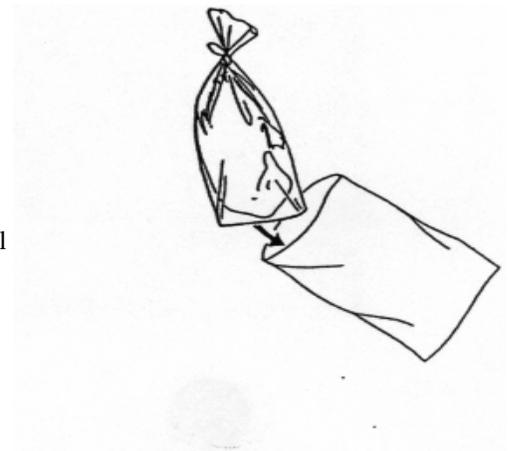
Use rubber, vinyl, or nitrile gloves when picking up sick or dead animals. If you do not have gloves insert your hand into a plastic bag. Immediately attach a leg tag to each animal with the following information in pencil or waterproof ink:

- species
- date collected
- location (specific site, town, county, state)
- found dead or euthanized
- collector (name/address/phone)
- additional history on back of tag



Place each animal in a plastic bag, tie shut, then place inside a second bag and tie shut (more than one individually bagged animal can be placed in the second bag). This system of double bagging prevents cross-contamination of individual specimens and leaking shipping containers that can contaminate vehicle surfaces and handlers during transportation.

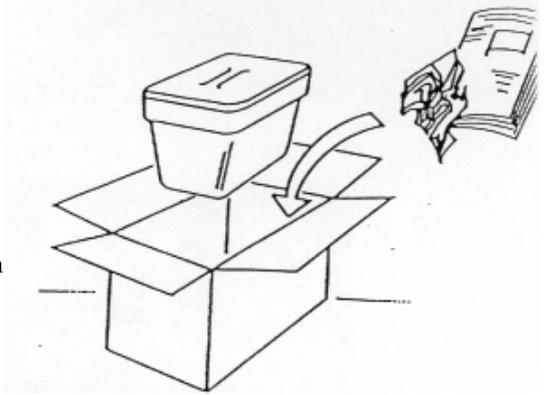
Tag the outside bag with number of animals and type, date collected, location, and name of collector. TAG, BAG, TAG



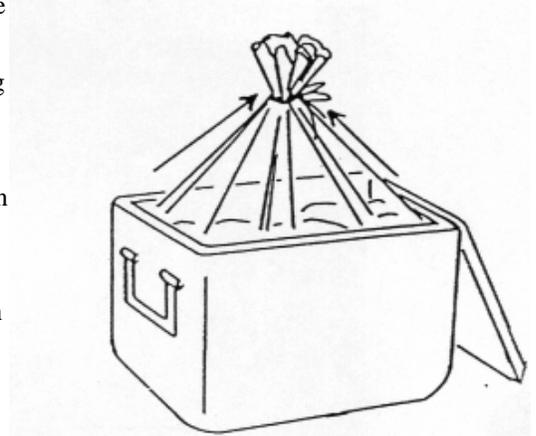
Contact the NWHC for assistance with collecting samples from animals that are too large to ship.

If you plan to collect animals, take along a cooler containing ice to immediately chill the carcass(s).

3. Ship animals in a hard sided plastic cooler or a styrofoam cooler placed in a cardboard box. Unprotected styrofoam coolers break into pieces during shipment. *Stuff* newspaper in any space between the sides of the box and cooler. A shipping container can be made by lining a cardboard box with at least 1-inch thick pieces of styrofoam. Hard sided (plastic) coolers and reusable coolant will be returned if labeled with your name and address in permanent ink.

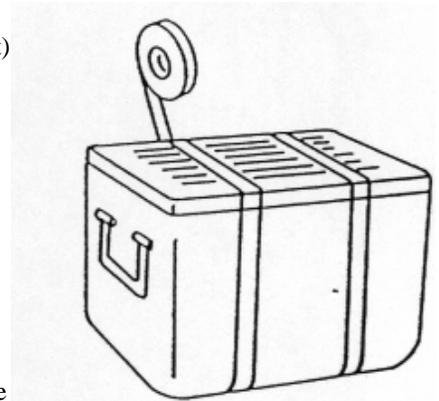


Line either type of cooler with a large plastic bag and pack the individually bagged animal(s) in the cooler with enough blue ice or similar coolant to keep carcasses cold. Blue ice (hardware or department store) is preferred to bagged wet ice to avoid leaking during shipment. Do not use dry ice unless instructed to do so. Place crumpled newspaper or similar absorbent material in the cooler with the bagged carcasses to fill unused space, keep ice in contact with carcasses, provide insulation, and absorb any liquids. Tape cooler or box shut with strapping tape. Place a detailed history of the animal and circumstances associated with the mortality event in an envelope and tape to the outside of the cooler.



4. NWHC DOES NOT PAY FOR SHIPPING. Prior to shipping contact the laboratory at 608-270-2400. Ship specimens by one day (overnight) service from Monday through Wednesday to guarantee arrival at NWHC before the weekend. If specimens are fresh and need to be shipped on Thursday or Friday please call NWHC to make special arrangements.

Freezing and thawing can make isolation of some pathogens difficult and damage tissues needed for microscopic examination. The NWHC prefers unfrozen specimens if they can be sent usually within 24 hours of collection or death. We will provide guidance on when or if to freeze samples on a case-by-case basis. If you are in the field and cannot call or ship within 24-36 hours, freeze the animal(s).



5. Label coolers as follows:  
**National Wildlife Health Center**  
**6006 Schroeder Road**  
**Madison, WI 53711**

In addition to the NWHC address, please write **DIAGNOSTIC SPECIMENS -WILDLIFE** in the lower left corner to cover federal shipping regulations and ensure delivery of coolers with specimens to our necropsy entrance. Also mark the package **KEEP COLD**. Please make a note of the track number in case packages are delayed.

#### **Appendix 4. Prototype Incident Management Materials**

The materials in this section are offered as samples, prototypes, and guidelines for the management of an HPAI incident. At the time of an actual incident, the Agency Administrator (usually the Superintendent or acting) would prepare the delegation of authority. The IMT would determine objectives, strategies, and tactics and resources.

Sample materials included:

- Highly Pathogenic Avian Influenza Situation Analysis form
- Incident Complexity Guide
- Sample delegation of authority
- Sample listing of incident objectives and strategies
- Sample incident information checklist and strategy
- Incident management considerations
- Sample Incident Action Plan

<b>HIGHLY PATHOGENIC AVIAN INFLUENZA SITUATION ANALYSIS</b>		Park Name/Region/State:	Prepared by (Name and Title):	Date and Time Prepared
<b>Geographic Factors</b>				
Describe the location of the source (attach map)		Give GPS or other coordinates		
Describe the USDA-defined Disease Surveillance Zone (attach map)		Describe the USDA-defined Control Area (attach map)		
List the facilities or transportation routes in the Disease Surveillance Zone:		List the facilities or transportation routes in the Disease Control Area:		
Describe the topography of the zones:		List accessibility problems:		
Landownership/Land Use Issues:		History of HPAI in the geographic area:		
<b>Human Factors</b>				
Describe known hazards or other safety considerations:				
Describe visitor and/or public uses that may be affected in or near a park:				
What restrictions are in place: <input type="checkbox"/> Area closures <input type="checkbox"/> Travel restrictions <input type="checkbox"/> Decontamination requirements		Details of restrictions:		
Describe the actual or potential socio-economic effects:				
Describe the level of media attention and political interest:		Describe the likelihood of protest actions:		

<b>Resource Factors</b>			
What is at risk (see Vulnerability Assessment): <input type="checkbox"/> Unique bird species <input type="checkbox"/> Other birds <input type="checkbox"/> T+E species <input type="checkbox"/> Poultry/domestic fowl <input type="checkbox"/> Unique plant communities <input type="checkbox"/> Cultural resources <input type="checkbox"/> Feral populations <input type="checkbox"/> Other _____	Describe the risks (see Vulnerability Assessment in the HPAI Preparedness and Response Plan):		
Describe other natural resource issues or considerations:			
Describe other cultural resource issues or considerations:			
<b>Incident Management Factors</b>			
How many people are likely to be involved?	What size is the incident area?	Are air operations likely to be involved?	Are other incidents occurring in the area?
Describe potential safety considerations:			
Describe policy issues and considerations:			
Describe likely logistical problems:			
Describe the current and forecast weather and its projected effect on the situation:			
What is the availability of resources? <input type="checkbox"/> Good <input type="checkbox"/> Fair – other incidents are occurring <input type="checkbox"/> Poor – competition for resources is strong	Summarize the overall situation in the country:		

**NATIONAL PARK SERVICE • Incident Management Program • INCIDENT COMPLEXITY GUIDE**

<b>FACTOR</b>	<b>TYPE 3</b>	<b>TYPE 2</b>	<b>TYPE 1</b>
Resources	<ul style="list-style-type: none"> <li>•mostly local resources</li> <li>•small to moderate number</li> <li>•used to working together</li> <li>•variety of resources not of issue</li> <li>•local resources generally qualified and experienced</li> </ul>	<ul style="list-style-type: none"> <li>•moderate number</li> <li>•many resources arrived pre-organized</li> <li>•moderate variety of different kinds of resources</li> <li>•some ordering difficulties</li> <li>•may be a lack of qualified resources locally</li> </ul>	<ul style="list-style-type: none"> <li>•large number</li> <li>•large number of single resources that need to be organized</li> <li>•there may be span of control issues to be resolved</li> <li>•wide variety of different kinds of resources</li> <li>•serious/severe ordering difficulties</li> </ul>
Political sensitivity/visibility and consequences	<ul style="list-style-type: none"> <li>•local significance</li> </ul>	<ul style="list-style-type: none"> <li>•high local/regional significance</li> </ul>	<ul style="list-style-type: none"> <li>•national/ international significance</li> </ul>
Variety of activities involved in incident	<ul style="list-style-type: none"> <li>•encompasses a small to moderate variety of activities</li> <li>•activities are generally standard for local operations</li> </ul>	<ul style="list-style-type: none"> <li>•encompasses a moderate variety of activities</li> </ul>	<ul style="list-style-type: none"> <li>•encompasses a wide variety of activities</li> </ul>
Costs/source of money	<ul style="list-style-type: none"> <li>•uses well established funding mechanisms</li> </ul>	<ul style="list-style-type: none"> <li>•WASO budget office may be involved</li> <li>•possibility of needing supplemental appropriation</li> </ul>	<ul style="list-style-type: none"> <li>•WASO budget office is likely to be involved</li> <li>•there is a definite possibility of needing supplemental appropriation</li> </ul>
Number of agencies and organizations involved	<ul style="list-style-type: none"> <li>•small to moderate number</li> </ul>	<ul style="list-style-type: none"> <li>•moderate number</li> </ul>	<ul style="list-style-type: none"> <li>•large number</li> </ul>
Scope of agreements and contracts	<ul style="list-style-type: none"> <li>•agreements and contracts are in place and useable, or are not needed</li> <li>•incident operations are well within local capabilities</li> </ul>	<ul style="list-style-type: none"> <li>•some or most agreements and contracts exists and are useable</li> <li>•a small number may need to be written</li> </ul>	<ul style="list-style-type: none"> <li>•large number of agreements and contracts need to be developed and implemented</li> <li>•very large contracts may need to be developed (Level IV Warrant)</li> </ul>
Logistic difficulties	<ul style="list-style-type: none"> <li>•within local capabilities or can be easily solved</li> </ul>	<ul style="list-style-type: none"> <li>•problems can be resolved through normal procedures and channels</li> <li>•incident activities may be dispersed over a wide geographic area</li> </ul>	<ul style="list-style-type: none"> <li>•special interventions with outside organizations may be needed to solve logistics problems</li> <li>•logistics may need to be branched</li> </ul>
Safety complexity	<ul style="list-style-type: none"> <li>•most identified risks can be mitigated by standard procedures</li> </ul>	<ul style="list-style-type: none"> <li>• most identified risks can be mitigated by standard procedures</li> </ul>	<ul style="list-style-type: none"> <li>•significant research may be needed to identify risks or appropriate litigations</li> <li>•large number of assistant safety officers may be required</li> </ul>
Media interest / complexity	<ul style="list-style-type: none"> <li>•low to moderate local or regional significance</li> </ul>	<ul style="list-style-type: none"> <li>•high local/regional significance</li> <li>•most information is straight forward</li> </ul>	<ul style="list-style-type: none"> <li>•national / international significance</li> <li>•potential for highly sensitive information or circumstances</li> </ul>
Size of area involved	<ul style="list-style-type: none"> <li>•incident facilities and operational work sites are relatively close together</li> </ul>	<ul style="list-style-type: none"> <li>•moderate number of scattered incident facilities and or operational work sites.</li> </ul>	<ul style="list-style-type: none"> <li>•large number of widely scattered incident facilities and operational work sites.</li> </ul>
Duration or other impacts to unit operations	<ul style="list-style-type: none"> <li>•short duration or</li> <li>•variety of resources not of issue</li> </ul>	<ul style="list-style-type: none"> <li>•normal operations may be disrupted for a prolonged period of time</li> </ul>	<ul style="list-style-type: none"> <li>•normal operations may be disrupted for a very prolonged period or may not be possible until the incident is resolved</li> </ul>
Air operations	<ul style="list-style-type: none"> <li>•the local agency is prepared to properly manage the air resources needed to manage the incident</li> </ul>	<ul style="list-style-type: none"> <li>•the local agency is not prepared to manage the air resources needed</li> </ul>	<ul style="list-style-type: none"> <li>• the local agency is not prepared to manage the air resources needed</li> <li>•aviation complexity may require OAS or FAA intervention to resolve issues</li> </ul>

**NATIONAL PARK SERVICE • Incident Management Program****INCIDENT COMPLEXITY GUIDE, Instructions and Definitions****INSTRUCTIONS FOR USING THIS GUIDE**

1. Gather as many facts about the incident as possible, using the “factors” column to help identify the information needed.
2. Contact your regional incident management coordinator and discuss the situation with her or him. Include type 2 or type 1 incident commanders in the decision process, as appropriate.
3. Looking at the typical characteristics of each factor, decide which of the characteristics listed under the “type” columns best describes your incident. Remember, usually no one incident will have all of the factors fall under just one of the “type” columns.
4. Determine the complexity based upon the column under which the preponderance of factor characteristics fall. For example, if most of the characteristics are best described by the type 2 column, then the incident is probably of type 2 complexity. But, also consider mitigating as well as aggravating circumstances. For example, an analysis of agency participation in the 2002 Olympics in Salt Lake City seemed to have a number of type 1 characteristics, such as international significance and world-wide media attention. However, further inspection of these factors showed that they were NOT an agency responsibility and should not force the incident to type 1. Conversely, the President’s three week vacation in Grand Teton National Park meant high-level political involvement with significant media attention over an extended period, driving an otherwise type 2 incident to type 1.
5. Order incident resources, including an Incident Management Team, if needed, accordingly. Remember, one of the benefits of the Incident Command System is that if you were wrong, or if the situation changes, you can always transition to a more complex or lower complex management structure as needed.

**INFORMATION REGARDING INCIDENT TYPES**

Type 5 incidents are relatively simple incidents that are usually handled by one resource. Examples:

- motor vehicle accident with no injuries investigated by a single police officer
- small grass fire extinguished by a single engine.

Type 4 incidents are those normally encountered by an agency or jurisdiction and are normally managed by the initial responding resources. Examples:

- multi-vehicle accident with injuries, handled by multiple resources.
- single-alarm working building fire.

Type 3 incidents are incidents that may require more resources in addition to those that initially responded and/or the timeframes for managing the incident are extended. (Some large parks may maintain organized type 3 Incident Management Teams.) Examples:

- lost person search extending over several operational periods.
- one-day dignitary visit.
- multiple alarm structural fire.

Type 2 incidents are incidents of significant complexity exhibiting characteristics shown by the factors listed on the reverse side of this sheet. These incidents are usually managed by regionally organized type 2 Incident Management Teams. Examples:

- impacts from moderate to large disaster, such as a hurricane, flood, tornado or earthquake.
- large special event or ceremony.

Type 1 incidents are the most complex incidents, often involving multiple kinds of activities, a large area of operation or significant political involvement. These incidents are usually managed by a nationally organized type 1 Incident Management Team. Examples:

- impacts from a large disaster, such as a hurricane, flood, tornado or earthquake.
- large special event or ceremony with national or international significance.

**SAMPLE DELEGATION OF AUTHORITY**

Memorandum

To: Incident Commander, NPS Incident Management Team

From: Superintendent, [name of park]

Subject: Delegation of Authority, Highly Pathogenic Avian Influenza Response

You are hereby assigned to manage the incident related to this outbreak of highly pathogenic avian influenza in (insert name of NPS Unit). You have full authority and responsibility for managing incident activities within the framework of law, regulation, Service and park policy, this Delegation, and guidance provided in the initial and subsequent briefings.

Specific direction and management considerations for this incident are:

1. For the safety of incident personnel and the public, identify hazards and assess and mitigate risks before taking actions.
2. Coordinate incident management, including priority setting, through Unified Command.
3. Protect private and public property and resources, basing actions on analysis of values at risk. Prevent, mitigate, or otherwise minimize resource impacts resulting from incident situations or operations.
4. Work with park staff to ensure that all incident operations are in compliance with all laws, regulations, and policies. Record and document plans and actions for Park's historical archives.
5. Provide accurate and timely information to incident personnel, cooperating agencies and the public.
6. Keep costs commensurate with incident needs. Coordinate reimbursable costs with cooperating agencies as required. Develop a request for emergency funding and provide the necessary documentation. Coordinate finance with the Park administrative staff.
7. I appoint \_\_\_\_\_ to serve as my Agency Advisor. She/He has full authority to make decisions in my stead. Park personnel may be assigned to the incident. Coordinate their availability with Agency Advisor.
8. Make all out-of-area resource orders directly with \_\_\_\_\_ Dispatch.
9. Prepare a list, to be used for letters of appreciation, of any cooperative agencies, and their personnel that are assigned to the incident.
10. Ensure that as incident facilities are released back to the Park that they are cleaned and put back to good order. Work with the Park staff to refurbish any equipment and incident kits upon completion of their use.
11. Notify me 24 hours in advance of the closeout of your management of the incident.
12. Meet with me personally for a closeout meeting prior to your departure.

Superintendent,

Date

## HIGHLY PATHOGENIC AVIAN INFLUENZA OUTBREAK

### Sample Incident Objectives and Strategies

1. Control and/or eradicate this outbreak of highly pathogenic avian influenza, consistent with legislation and agency policies.

*Alternative strategies to evaluate. In most instances, multiple strategies will be employed simultaneously. In coordination with cooperating agencies, pick those strategies that best accomplish the objective while still complying with legal constraints, policy requirements and management goals:*

Potential Strategy	Considerations
1. Provide education to workers, residents and the public.	<ul style="list-style-type: none"> <li>• One of the most cost-effective, and most likely, strategies.</li> </ul>
2. Identify the boundaries of and establish an Infected Zone, Buffer-Surveillance Zone, and Surveillance Zone.	<ul style="list-style-type: none"> <li>• Actual zones will be established by APHIS.</li> <li>• APHIS may be willing to negotiate some aspects of the zones, especially toward the outer boundaries.</li> </ul>
3. Completely close all or part of either the Infected Zone or the Buffer-Surveillance Zone.	<ul style="list-style-type: none"> <li>• Would have significant impacts on facilities, employees and residents in the closed area(s).</li> <li>• Could have significant impacts on the local tourist industry and retail trade</li> </ul>
4. Remove animal carcasses for sanitary disposal.	<ul style="list-style-type: none"> <li>• Pick up animal carcasses; euthanize moribund birds.</li> <li>• Identify sanitary and environmentally acceptable disposal methods.</li> </ul>
5. Exclude or eliminate poultry/domestic fowl in the Control Area and Surveillance Zones.	<ul style="list-style-type: none"> <li>• Would have significant impacts on poultry/domestic fowl in the park and on cultural landscape scenes.</li> <li>• The most likely strategy to be used by APHIS.</li> </ul>
6. Control feral and non-native species in either the Control Area or the Surveillance Zone.	<ul style="list-style-type: none"> <li>• May or may not meet legal or policy requirements and management goals for parks or state wildlife management agencies.</li> <li>• Consider bringing in expert assistance.</li> <li>• Could be operationally difficult to carry out.</li> </ul>
7. Continue or expand HPAI surveillance in wildlife.	<ul style="list-style-type: none"> <li>• Consider including other surveillance strategies in addition to morbidity and mortality investigation.</li> <li>• Expand the number species monitored, including birds and mammals.</li> </ul>
8. Reduce or depopulate susceptible wildlife in either the Control Area or Surveillance Zone.	<ul style="list-style-type: none"> <li>• Efficacy of culling migratory birds on HPAI control is not proven and not recommended by WHO or FAO.</li> <li>• May or may not meet legal or policy requirements.</li> <li>• Could have significant impacts on wildlife populations for years to come.</li> <li>• Consider other strategies or combinations of strategies to avoid this choice.</li> <li>• Could be operationally difficult to carry out.</li> </ul>
9. Limit the movement of animals in and around established zones.	<ul style="list-style-type: none"> <li>• Could have significant impacts on the poultry/domestic fowl in the park.</li> <li>• An important component of any control strategy.</li> </ul>
10. Reduce artificial congregations of wild birds.	<ul style="list-style-type: none"> <li>• Prohibit feeding (except individual bird feeders)</li> <li>• Harvest agricultural crops on cultural landscapes.</li> <li>• Modify unnatural landscapes.</li> </ul>
11. Require the decontamination of humans, equipment and other property being moved out of the Control Area or the Surveillance Zone.	<ul style="list-style-type: none"> <li>• May be used as a mitigating strategy to reduce the need for travel restrictions.</li> <li>• Will likely be required for incident personnel and equipment in affected areas.</li> </ul>
12. Vaccinate animals within the Control Area or other high risk areas.	<ul style="list-style-type: none"> <li>• Efficacy in wild birds is unknown. Consider bringing in expert assistance.</li> <li>• Operationally, this would be a very difficult strategy to carry out.</li> <li>• May be most appropriate for T&amp;E species.</li> </ul>

13. Implement research	<ul style="list-style-type: none"> <li>• Gain knowledge of HPAI in wild birds and effects of management actions.</li> <li>• Gain knowledge on infection/impacts in mammals.</li> </ul>
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2. Provide for the safety of the public, agency and incident personnel.

*Strategies:*

- Develop protocols for providing for worker health, including follow-up monitoring, prophylaxis, and definition of exposure.
- Implement active surveillance for HPAI in humans in the affected area.
- Analyze all planned operational tactics and logistical arrangements to identify likely hazards and performance errors. Plan and implement actions to remove or mitigate the hazards and errors.
- Use only standard or approved procedures for all activities.
- Use only qualified personnel for specialized procedures and techniques.

3. Minimize negative impacts to private and public property, resources, recreation, businesses and individuals.

*Strategies:*

- Determine the types of unacceptable impacts.
- Conduct an impact review of all planned actions. Analyze proposed operational tactics to identify impacts on property, natural and cultural resources, residents, visitors and other members of the public. Identify those actions that will result in unacceptable impacts and either alter the action or take mitigating steps to prevent the impacts.

4. Provide accurate and timely information to agency and incident personnel and the public.

*Strategies:*

- Develop and implement an Information Plan for target audiences.
- Fulfill each request for information from other sources on a case-by-case basis.

5. Keep costs commensurate with incident needs.

*Strategies:*

- Use local resources to the extent possible.
- Require Section Chief approval for all orders.
- Provide instruction to incident personnel regarding proper ordering procedures.
- Require that all personnel follow standard ICS ordering procedures.
- Require justification for unusual or expensive requests.

## **SAMPLE INCIDENT INFORMATION CHECKLIST AND STRATEGY**

### **Checklist:**

Who is the lead agency for media and public communication? This will be determined at the national level. Provide support, or if appropriate, lead.

Is there a park Public Information/Public Affairs Officer or is it someone's collateral duty? This person may have an existing information strategy and list of contacts, i.e. media, elected officials, key community members, neighboring agencies, etc.

If not, assign this role to a staff member who has experience dealing with the public. Even if a team comes in to manage the incident, having a park person available to work with the information function is invaluable as a source of local knowledge and it facilitates the dissemination of information to park staff and others.

Is there a website manager? This person will be a valuable asset to the incident.

Make a list of phone, fax numbers and/or email addresses of important contacts, i.e. concessioner representatives, elected officials, special interest groups, park partners, neighboring agencies and others who will want/need information and updates on situation. If a media contact list is not available, compile a list of the newspapers, TV and radio stations that serve the area surrounding the park.

Determine information center location(s) at the park, if appropriate facilities exist. Will park employees provide the staffing, or will additional resources need to be ordered?

### **Example of an information strategy:**

Situation: *brief statement on who, what, where, when*

An outbreak of highly pathogenic avian influenza is occurring in or near the park. The NPS is activating its response plan, which provides options for actions to protect the park's wildlife resources from further (or possible) infection.

Communication Objectives: *measurable and attainable*

Provide timely and updated information to the target audiences on the actions the park is taking related to the threat or presence of HPAI. This information can include press releases, community and park bulletin boards, public meetings, and information centers.

Target groups: *who are you communicating with?*

Park employees

Park concessioners, cooperating associations, other park partners

Incident management staff (if different from park staff)

Local residents in surrounding/gateway communities

Inholders

### Visitors

Business permit holders

Cooperating agencies (APHIS, USGS BRD, public health service, US Fish and Wildlife Service, USDA Forest Service, state fish and game, state veterinarians, country sheriff, state highway patrol)

Elected officials

Special interest groups (environmental, animal rights, outfitters and guide association)

News media

### Information Center Location:

Use park visitor center(s) or public information office, if possible. Otherwise establish center at Incident Command Post or appropriate location (needs to have access and phone lines). Consider how many information centers are needed (i.e., a center may be needed at each entrance).

### Communication Methods: *use as many as appropriate*

Establish information centers to provide information in person or over the phone.

Establish information bulletin boards in areas utilized by park visitors and in local communities. Consider providing roving information staff in high use areas.

Provide information to local residents and businesses by distributing updates in person via door to door handouts.

Utilize existing park web site or create one for incident. Update daily or as situation changes.

### Key Messages: *significant points you want to get across*

This disease affects birds, primarily waterfowl and shorebirds. The disease is of concern because of the potential impact on domestic poultry and the potential for human infection. The National Park Service is being proactive and prudent in preventing the disease from entering the park and/or assisting (working in cooperation with) other agencies with containment.

The wildlife resources of the National Park System are significant and protecting them is an integral portion of the agency's mission. Wildlife viewing is a major visitor activity in national parks and many parks provide habitat for endangered and threatened species.

At the same time, the NPS recognizes that the disease poses a threat to human health and a large-scale threat and economic harm to the poultry/domestic fowl and tourist industries.

A measured, rational response to the threat of HPAI is required so that impacts on the park and the surrounding area are appropriate to the degree of threat.

Monitor all types of media:

Check newspapers for coverage

Monitor TV and radio coverage

Feedback from employees, visitors, local residents, and officials

Information gathered from community/park contacts

Hits on web site

**INCIDENT MANAGEMENT CONSIDERATIONS****Unified Command**

- Definition: a command structure that provides for all agencies or individuals who have jurisdictional responsibility, either geographical or functional, to jointly manage an incident through a common set of objectives.
- In the case of highly pathogenic avian influenza in animals, the Animal and Plant Health Inspection Service (USDA APHIS) is the lead agency for national response to the disease. While the NPS must be responsive to the concerns of APHIS, a park does not give up its fundamental mission to protect park resources. NPS authority is not unquestioningly relinquished to APHIS; rather, planned actions should be jointly negotiated through a unified process. Ultimately, however, consultation between the Secretaries of Agriculture and the Interior under the Animal Health Protection Act may assign disease management authority.
- A park manager may delegate incident management to an Incident Management Team (IMT) or Unified Command by means of a signed Delegation of Authority.

**Safety Officer**

- Obtain briefings from APHIS and public health officials to understand hazards, risks, and mitigation strategies
- Be sure to inform all incident personnel of the true risk factors and required mitigation strategies involved in HPAI management
- Order enough Assistant Safety Officers to monitor logistical functions as well as operations in the field

**Information Officer** (refer to the Incident Information Checklist and Strategy)

**Operations Section Chief**

- Confer with local subject matter experts and the Situation Unit on current incident conditions (wildlife, humans, topography, access, road conditions).
- Many personnel may be new to ICS. Briefings on organization, chain-of-command, terms, ordering procedures may be required
- Maintain lines of communication to track the status of resources (human and supplies/equipment)

- Check on any upcoming events (festivals, hunting seasons, etc.) that may significantly impact the incident, the park unit, surrounding area, and neighboring communities
- Technical specialists, for example an NPS Disease Assistance and Response Team, may be assigned to Operations or Planning

### **Planning Section Chief**

- Consider providing briefing packets in addition to the Incident Action Plan
- Field Observers may be very useful in locating and tracking wildlife
- Documentation will be extremely important. Consider preparing an Incident History for publication
- Technical specialists, for example an NPS Disease Assistance and Response Team, may be assigned to Operations or Planning

### **Logistics Section Chief**

- Incident security is likely to be an Operations function although security for facilities and supplies/equipment caches may be required
- It is likely that area closures will require incident base facilities to be located a substantial distance from operational areas
- Multiple agencies will be involved and communications could be a significant challenge
- Consider ordering a technical specialist to manage disinfection and disposal
- Ground support may require a vehicles for moving carcasses
- Fencing materials may be required; a fencing crew may work for Logistics or Operations and need to coordinate with Resource Advisors

### **Finance Section Chief**

- Comps/Claims issues may arise.
- Tort claims (Form SF-95) may arise from private citizens
- SEMA and FEMA may be involved
- Multiple agency involvement will result in complex accounting
- Prepare reimbursable accounts as needed
- Check for existing cooperative agreements

Highly Pathogenic Avian Influenza Outbreak  
*At Your Park*

**SAMPLE INCIDENT ACTION PLAN**  
Operational Period: [insert date and times]

<p><b>INCIDENT OBJECTIVES</b></p>	<p>1. INCIDENT NAME Highly Pathogenic Avian Influenza Outbreak</p>	<p>2. DATE PREPARED</p>	<p>3. TIME PREPARED</p>										
<p>4. OPERATIONAL PERIOD (DATE/TIME)</p> <p>[insert date and times of operational period here]</p>													
<p><b>5. INCIDENT OBJECTIVES</b></p> <ol style="list-style-type: none"> <li>1. Control and/or eradicate this outbreak of highly pathogenic avian influenza, consistent with legislation and agency policy.</li> <li>2. Provide for the safety of the public, agency and incident personnel.</li> <li>3. Minimize negative impacts to private and public property, resources, recreation, businesses and individuals.</li> <li>4. Provide accurate and timely information to incident and agency personnel and the public.</li> <li>5. Keep costs commensurate with incident needs.</li> </ol>													
<p><b>6. WEATHER FORECAST FOR OPERATIONAL PERIOD</b></p> <p>[insert latest weather forecast here]</p>													
<p><b>7. GENERAL/SAFETY MESSAGE</b></p> <p>[insert pertinent general safety information here]</p>													
<p><b>8. ATTACHMENTS (☒ IF ATTACHED)</b></p> <table border="0" style="width: 100%;"> <tr> <td>☒ - ORGANIZATION LIST (ICS 203)</td> <td>☒ - SAFETY MESSAGE</td> </tr> <tr> <td>☒ - DIVISION ASSIGNMENT LISTS (ICS 204)</td> <td>☐ - INCIDENT MAP</td> </tr> <tr> <td>☒ - COMMUNICATIONS PLAN (ICS 205)</td> <td>☐ - TRAFFIC MAP</td> </tr> <tr> <td>☒ - MEDICAL PLAN (ICS 206)</td> <td>☐ - UNIT LOG (ICS 214) (Turn in to Planning at end of period)</td> </tr> <tr> <td>☒ - AIR OPERATIONS SUMMARY</td> <td></td> </tr> </table>				☒ - ORGANIZATION LIST (ICS 203)	☒ - SAFETY MESSAGE	☒ - DIVISION ASSIGNMENT LISTS (ICS 204)	☐ - INCIDENT MAP	☒ - COMMUNICATIONS PLAN (ICS 205)	☐ - TRAFFIC MAP	☒ - MEDICAL PLAN (ICS 206)	☐ - UNIT LOG (ICS 214) (Turn in to Planning at end of period)	☒ - AIR OPERATIONS SUMMARY	
☒ - ORGANIZATION LIST (ICS 203)	☒ - SAFETY MESSAGE												
☒ - DIVISION ASSIGNMENT LISTS (ICS 204)	☐ - INCIDENT MAP												
☒ - COMMUNICATIONS PLAN (ICS 205)	☐ - TRAFFIC MAP												
☒ - MEDICAL PLAN (ICS 206)	☐ - UNIT LOG (ICS 214) (Turn in to Planning at end of period)												
☒ - AIR OPERATIONS SUMMARY													
<p>202 ICS 3/80</p>	<p>9. PREPARED BY (PLANNING SECTION CHIEF)</p>	<p>10. APPROVED BY (INCIDENT COMMANDER)</p>											

<b>ORGANIZATION ASSIGNMENT LIST</b> <i>ICS-203</i>	DATE PREPARED	TIME PREPARED
Highly Pathogenic Avian Influenza Outbreak Incident	OPERATIONAL PERIOD (DATE/TIME)	
<p style="text-align: center;"><b>INCIDENT COMMAND AND STAFF</b></p> Unified Incident Commanders Information Officer Safety Officer Agency Representatives USDA APHIS State Dept. of Wildlife State Veterinarian Other state or Federal agencies Tribes Non-Governmental Organizations Concessions	<p style="text-align: center;"><b>OPERATION SECTION</b></p> Operation Chief Division A Division B [as many as needed] Animal Management Group [other groups as needed]	
<p style="text-align: center;"><b>PLANNING SECTION</b></p> Planning Section Chief Resource Unit Leader Situation Unit Leader Documentation Unit Leader Demobilization Unit Leader Technical Specialists: Wildlife Veterinarian Wildlife Biologist Cultural Resource Specialist	<p style="text-align: center;"><b>AIR OPERATIONS BRANCH</b></p> Air Ops Branch Director Fixed-wing Coordinator Helicopter Manager Helibase Manager	
<p style="text-align: center;"><b>LOGISTICS SECTION</b></p> Logistics Chief Communications Unit Leader Medical Unit Leader Ground Support Unit Leader Facilities Unit Leader Food Unit Leader	<p style="text-align: center;"><b>FINANCE SECTION</b></p> Finance Section Chief Time Unit Leader Procurement Unit Leader Comp/Claims Unit Leader Cost Unit Leader	
PREPARED BY (Resource Unit Leader)		Date/time:

1. BRANCH ----	2. DIVISION/GROUP A	<b>DIVISION ASSIGNMENT LIST</b> (ICS) 1/82					
3. INCIDENT NAME  Highly Pathogenic Avian Influenza Outbreak		4. OPERATIONAL PERIOD DATE TIME					
<b>5. OPERATIONS PERSONNEL</b>							
OPERATIONS CHIEF _____		DIV/GROUP SUPERVISOR _____					
BRANCH DIRECTOR _____		AIR ATTACK SUPERVISOR NO. _____					
<b>6. RESOURCES ASSIGNED THIS PERIOD</b>							
STRIKE TEAM/TASK FORCE/ RESOURCE DESIGNATOR	LEADER	NO. OF PERSONS	TRANS. NEEDED	DROPOFF PT/TIME	PICKUP PT/TIME		
Law Enforcement Unit		1	No	As Assigned	As Assigned		
Law Enforcement Unit		1	No	As Assigned	As Assigned		
Law Enforcement Unit		1	No	As Assigned	As Assigned		
Law Enforcement Unit		1	No	As Assigned	As Assigned		
Law Enforcement Unit		1	No	As Assigned	As Assigned		
<b>7. CONTROL OPERATIONS</b>							
<ul style="list-style-type: none"> <li>• Restrict travel in the following areas:</li> <li>• Conduct foot and horse patrols and post lookouts to prevent people from entering the infected area.</li> <li>• Post closure signs at main access points.</li> <li>• Observe domestic birds and wildlife and report information to the Operations Section Chief as appropriate.</li> </ul>							
<b>8. SPECIAL INSTRUCTIONS</b>							
Division Supervisor will notify the Operations Section Chief of any breach of the closed area immediately. Ensure that biosafety/decontamination protocols are followed when moving from one area to another. Keep a supply of information packets available to distribute to the public as needed.							
<b>9. DIVISION/GROUP COMMUNICATION SUMMARY</b>							
FUNCTION	FREQ	SYST.	CHAN	FUNCTION	FREQ.	SYSTEM	CHAN.
TACTICAL/LOCAL							
COMMAND/ REPEATER				[insert radio information here]	TX		
					RX		
PREPARED BY (Resources Unit Leader)		APPROVED BY (Planning Section Chief)		DATE		TIME	
1. BRANCH ----	2. DIVISION/GROUP B			<b>DIVISION ASSIGNMENT LIST</b> (ICS)			1/82

<b>3. INCIDENT NAME</b> Highly Pathogenic Avian Influenza Outbreak	<b>4. OPERATIONAL PERIOD</b> DATE _____ TIME _____
---	--

<b>5. OPERATIONS PERSONNEL</b>	
OPERATIONS CHIEF _____	DIV/GROUP SUPERVISOR _____
BRANCH DIRECTOR _____	AIR ATTACK SUPERVISOR NO. _____

**6. RESOURCES ASSIGNED THIS PERIOD**

STRIKE TEAM/TASK FORCE/ RESOURCE DESIGNATOR	LEADER	NO. OF PERSONS	TRANS. NEEDED	DROPOFF PT/TIME	PICKUP PT/TIME
Law Enforcement Unit		1	No	As Assigned	As Assigned
Law Enforcement Unit		1	No	As Assigned	As Assigned
Law Enforcement Unit		1	No	As Assigned	As Assigned
Law Enforcement Unit		1	No	As Assigned	As Assigned
Law Enforcement Unit		1	No	As Assigned	As Assigned

**7. CONTROL OPERATIONS**

- Restrict travel in the following areas:
- Conduct foot and horse patrols and post lookouts to prevent people from entering the infected area.
- Post closure signs at main access points.
- Observe domestic birds and wildlife and report information to the Operations Section Chief as appropriate.

**8. SPECIAL INSTRUCTIONS**

Division Supervisor will notify the Operations Section Chief of any breach of the closed area immediately. Ensure that biosafety/decontamination protocols are followed when moving from one area to another. Keep a supply of information packets available to distribute to the public as needed.

**9. DIVISION/GROUP COMMUNICATION SUMMARY**

FUNCTION	FREQ	SYST.	CHAN	FUNCTION	FREQ.	SYSTEM	CHAN.
TACTICAL/LOCAL							
COMMAND/ REPEATER				[insert radio information here]	TX		
					RX		

PREPARED BY (Resources Unit Leader) _____	APPROVED BY (Planning Section Chief) _____	DATE _____	TIME _____
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1. BRANCH -----	2. DIVISION/GROUP Animal Management Group	<b>DIVISION ASSIGNMENT LIST</b> (ICS) 1/82
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<b>3. INCIDENT NAME</b> Highly Pathogenic Avian Influenza Outbreak	<b>4. OPERATIONAL PERIOD</b> DATE _____
---	--

				TIME			
<b>5. OPERATIONS PERSONNEL</b>							
OPERATIONS CHIEF _____		DIV/GROUP SUPERVISOR _____					
BRANCH DIRECTOR _____		AIR ATTACK SUPERVISOR NO. _____					
<b>6. RESOURCES ASSIGNED THIS PERIOD</b>							
STRIKE TEAM/TASK FORCE/ RESOURCE DESIGNATOR	LEADER	NO. OF PERSONS	TRANS. NEEDED	DROPOFF PT/TIME	PICKUP PT/TIME		
Law Enforcement Unit		1	No	As Assigned	As Assigned		
Wildlife Veterinarian		1	No	As Assigned	As Assigned		
Wildlife Biologist		1	No	As Assigned	As Assigned		
Risk Management Specialist		1	No	As Assigned	As Assigned		
Hazardous Materials Specialist		1	No	As Assigned	As Assigned		
Disposal Team		4	No	As Assigned	As Assigned		
<b>7. CONTROL OPERATIONS</b>							
<ul style="list-style-type: none"> <li>• Collect animal carcasses and record data.</li> <li>• Carcass disposal.</li> <li>• Observe domestic birds and wildlife and report information to the Operations Section Chief as appropriate.</li> </ul>							
<b>8. SPECIAL INSTRUCTIONS</b>							
Ensure that biosafety/decontamination protocols are followed when moving from one area to another. Keep a supply of information packets available to distribute to the public as needed.							
<b>9. DIVISION/GROUP COMMUNICATION SUMMARY</b>							
FUNCTION	FREQ	SYST.	CHAN	FUNCTION	FREQ.	SYSTEM	CHAN.
TACTICAL/LOCAL							
COMMAND/ REPEATER				[insert radio information here]	TX		
					RX		
PREPARED BY (Resources Unit Leader)		APPROVED BY (Planning Section Chief)		DATE		TIME	

<b>INCIDENT RADIO COMMUNICATIONS PLAN</b>			1. INCIDENT NAME Highly Pathogenic Avian Influenza	2. DATE/TIME PREPARED	3. OPERATIONAL PERIOD (DATE/TIME)
4. BASIC RADIO CHANNEL UTILIZATION					
SYSTEM/CACHE	CHANNEL	FUNCTION	FREQUENCY/TONE	ASSIGNMENT	REMARKS
		Operations			
		Contingency Tactical			
		Command			
		Logistics			
205 ICS 9/86	5. PREPARED BY (COMMUNICATIONS UNIT)				

<b>MEDICAL PLAN</b>	1. INCIDENT NAME Highly Pathogenic Avian Outbreak	2. DATE PREPARED	3. TIME PREPARED	4. OPERATIONAL PERIOD				
5. INCIDENT MEDICAL AID STATIONS								
MEDICAL AID STATIONS		LOCATION		PARAMEDICS				
				YES	NO			
None								
6. TRANSPORTATION								
A. AMBULANCE SERVICES								
NAME	ADDRESS	PHONE	PARAMEDICS					
			YES	NO				
B. INCIDENT AMBULANCES								
NAME	LOCATION			PARAMEDICS				
				YES	NO			
7. HOSPITALS								
NAME	ADDRESS	TRAVEL TIME		PHONE	HELIPAD		BURN CENTER	
		AIR	GRD		YES	NO	YES	NO
8. MEDICAL EMERGENCY PROCEDURES								
<p>Minor injuries will be treated by on-site ambulance crews. If anyone becomes seriously injured or ill, locate, access, and stabilize the patient. If the patient is in a hazardous location, remove the hazard, if possible, or move the patient away from the hazard. Notify the Operations Section Chief and request medical assistance. Ambulance transport will be to the _____ Hospital.</p>								
206 ICS 8/78		9. PREPARED BY (MEDICAL UNIT LEADER)			10. REVIEWED BY (SAFETY OFFICER)			

<b>AIR OPERATIONS SUMMARY</b>		1. INCIDENT NAME Highly pathogenic avian influenza	2. OPERATIONAL PERIOD			3. DISTRIBUTION HELIBASES _____ FIXED WING BASES _____					
4. PERSONNEL AND COMMUNICATIONS		NAME	AIR/AIR FREQUENCY	AIR/GROUND FREQUENCY	5. REMARKS (Spec. Instructions, Safety Notes, Hazards, Priorities)  All personnel will wear personal protective equipment and be briefed on safe helicopter operations by qualified personnel.  Priority will be given to any mission involving a threat against life.  Reconnaissance flights will be scheduled as needed.						
AIR OPER. DIRECTOR		_____	_____	_____							
AIR ATTACK SUPER.		_____	_____	_____							
HELICOPTER COOR.		_____	_____	_____							
AIR TANKER COOR.		_____	_____	_____							
_____		_____	_____	_____							
6. LOCATION/ FUNCTION		7. ASSIGNMENT		8. FIXED WING		9. HELICOPTERS		10. TIME		11. AIRCRAFT ASSIGNED	12. OPERATING BASE
		NO.	TYPE	NO.	TYPE	AVAIL.	COM-MENCE				
13. TOTALS			1								
220 ICS 3/82 NFFS 1351		14. AIR OPERATIONS SUPPORT EQUIPMENT						15. PREPARED BY (Include Date & Time)			

## Highly Pathogenic Avian Influenza Outbreak

# Safety Message

- **STAY OUT** of the Infected Zone unless you are specifically assigned to conduct tasks within that zone.
- **Implement sanitation and personal hygiene measures to prevent the spread of disease—Wash your hands, clean and sanitize tools and work area.**
- **Always wear prescribed personal protective equipment.**
- **Be sure to drink plenty of fluids and work with your incident supervisor to schedule breaks in hot weather.**
- **There may be an unusual number of vehicles in the area. Watch yourself around traffic.**
- **Be aware of your surroundings at all times, especially when walking on or near roads with traffic moving!**
- **Watch your footing! You may encounter uneven surfaces, dense brush, uneven pavement, and stairs.**
- **Normal traffic patterns will be altered during the control of the disease. Stay alert!**
- **Ticks are numerous! Do a tick check after work, especially if your assignment was in wooded or grassy areas.**
- **Drive at speed limits and drive defensively.**
- **Consider other safety issues:**  
Decontamination procedures; animal handling procedures and safety; aviation safety.

## Appendix 5. Contact and Notification Lists

### State, Territorial, and Provincial Fish and Wildlife Agencies

[http://www.iafwa.org/members/member\\_information.htm](http://www.iafwa.org/members/member_information.htm)

#### ❖ ALABAMA

Mr. M.N. (Corky) Pugh, Director  
Division of Wildlife & Freshwater Fisheries  
Alabama Department of Conservation  
& Natural Resources  
64 N. Union Street  
Montgomery AL 36130  
(334) 242-3849/fax 334-242-3032  
Website: [www.outdooralabama.com](http://www.outdooralabama.com)

#### ❖ ALASKA

Mr. McKie Campbell, Commissioner  
Alaska Department of Fish & Game  
P.O. Box 25526  
Juneau AK 99802-5526  
(907) 465-4100/fax 907 465-2332  
Website:  
[www.state.ak.us/local/akpages/FISH.GAME/adfghome.htm](http://www.state.ak.us/local/akpages/FISH.GAME/adfghome.htm)

#### ❖ ARKANSAS

Mr. Scott Henderson, Director  
Arkansas Game & Fish Commission  
#2 Natural Resources Drive  
Little Rock AR 72205  
(501) 223-6305/fax 501-223-6448  
Website: [www.agfc.state.ar.us/](http://www.agfc.state.ar.us/)

#### ❖ ARIZONA

Mr. Duane Shroufe, Director  
Arizona Game & Fish Department  
2222 West Greenway Road  
Phoenix AZ 85023-4312  
(602) 789-3278/fax 602-789-3299  
Website: [www.azgfd.com/](http://www.azgfd.com/)

#### ❖ CALIFORNIA

Mr. Ryan Broddrick, Director  
California Department of Fish & Game  
P.O. Box 944209  
Sacramento CA 94244-2090  
(916) 653-7667/fax 916-653-1856  
Website: [www.dfg.ca.gov/dfghome.html](http://www.dfg.ca.gov/dfghome.html)

#### ❖ COLORADO

Mr. Bruce McCloskey, Director  
Colorado Division of Wildlife  
6060 Broadway  
Denver CO 80216  
(303) 291-7208/fax 303-294-0874  
Website: [www.wildlife.state.co.us/](http://www.wildlife.state.co.us/)

#### ❖ CONNECTICUT

Mr. Edward Parker  
Chief, Bureau of Natural Resources  
Connecticut Department of Environmental  
Protection  
79 Elm Street  
Hartford CT 06106-5127  
(860) 424-3010/fax 860-424-4078  
Website: [www.dep.state.ct.us/](http://www.dep.state.ct.us/)

#### ❖ DELAWARE

Mr. Patrick Emory, Director  
Delaware Division of Fish & Wildlife  
89 Kings Highway  
Dover DE 19901  
(302) 739-5295/fax 302-739-6157  
Website: [www.dnrec.state.de.us/fw/](http://www.dnrec.state.de.us/fw/)

#### ❖ DISTRICT OF COLUMBIA

Mr. Ira Palmer  
Fisheries & Wildlife Program Manager  
Environmental Health Administration  
Fisheries and Wildlife Division  
51 N Street, NE, 5th Floor  
Washington DC 20002-3323  
(202) 535-2266/fax 202-535-1373  
Website:  
[www.dchealth.com/dfishandwildlife](http://www.dchealth.com/dfishandwildlife)

#### ❖ FLORIDA

Mr. Kenneth Haddad, Executive Director  
Florida Fish & Wildlife Conservation  
Commission  
620 S. Meridian Street  
Tallahassee FL 32399-1600  
(850) 488-2975/fax 850-921-5786  
Website: [www.fcn.state.fl.us/gfc/home.html](http://www.fcn.state.fl.us/gfc/home.html)

#### ❖ GEORGIA

Mr. Dan Forster, Director  
Georgia Wildlife Resources Division  
2070 US Highway 278, SE  
Social Circle, GA 30025  
(770) 918-6401/fax 706-557-3030  
Website: [www.dnr.state.ga.us/](http://www.dnr.state.ga.us/)

**❖ HAWAII**

Mr. Peter Young, Chairperson  
Hawaii Department of Land  
and Natural Resources  
PO Box 621  
Honolulu, HI 96809  
(808) 587-0401/fax 808-587-0390  
Website: [www.state.hi.us/dlnr/](http://www.state.hi.us/dlnr/)

**❖ IOWA**

Mr. Jeff Vonk, Director  
Iowa Department of Natural Resources  
East Ninth & Grand Avenue  
Des Moines IA 50319-0034  
(515) 281-5385/fax 515-281-6794  
Website: [www.state.ia.us/government/dnr](http://www.state.ia.us/government/dnr)

Mr. Mike Brandrup, Administrator  
Conservation and Recreation Division  
Iowa Department of Natural Resources  
East Ninth & Grand Avenue  
Des Moines, IA 50319-0034  
(515) 242-5948/fax 515-281-6794  
Website: [www.state.ia.us/government/dnr](http://www.state.ia.us/government/dnr)

**❖ IDAHO**

Mr. Steve Huffaker, Director  
Idaho Fish & Game Department  
Box 25, 600 South Walnut  
Boise ID 83707  
(208) 334-5159/fax 208-334-4885  
Website:  
[www2.state.id.us/fishgame/fishgame.html](http://www2.state.id.us/fishgame/fishgame.html)

**❖ ILLINOIS**

Joel Brunsvold, Director  
Illinois Department of Natural Resources  
One Natural Resources Way  
Springfield IL 62702-1271  
(217) 785-0075/fax 217-785-9236  
Website: <http://dnr.state.il.us/>

**❖ INDIANA**

Mr. Glen Salmon, Director  
Division of Fish & Wildlife  
Indiana Department of Natural Resources  
402 West Washington Street, Room W-273  
Indianapolis IN 46204  
317-232-4091/fax 317-232-8150  
Website: [www.state.in.us/dnr/fishwild](http://www.state.in.us/dnr/fishwild)

**❖ KANSAS**

Mr. Keith Sexson  
Assistant Secretary, Wildlife Operations  
Kansas Department of Wildlife & Parks  
512 SE 25th Avenue  
Pratt KS 67124-8174  
(316) 672-5911/fax 316-672-6020  
Website: <http://www.kdwp.state.ks.us/>

**❖ KENTUCKY**

Mr. C. Thomas Bennett, Commissioner  
Kentucky Dept. of Fish/Wildlife Resources  
One Game Farm Road  
Frankfort KY 40601  
(502) 564-7109X333/fax 502-564-6508  
Website: <http://www.kdfwr.state.ky.us/>

**❖ LOUISIANA**

Mr. Dwight Landreneau, Secretary  
Department of Wildlife and Fisheries  
P. O. Box 98000  
Baton Rouge, LA 70898-9000  
(225) 765-2623/FAX: (225) 765-2607  
Website: <http://www.wlf.state.la.us/>

**❖ MASSACHUSETTS**

Mr. Wayne MacCallum, Director  
Division of Fisheries & Wildlife  
Massachusetts Department of Fisheries,  
Wildlife & Environmental Law Enforcement  
One Rabbit Hill Road  
Westborough MA 01581  
(508) 792-7270/fax 508-792-7275  
Website: <http://www.state.ma.us/dfwele/dfw>

**❖ MARYLAND**

Mr. Paul Peditto  
Director, Wildlife & Heritage Service  
Maryland Department of Natural Resources  
580 Taylor Ave. E-1  
Annapolis MD 21401  
(410) 260-8549/fax (410) 260-8595  
Website: <http://www.dnr.state.md.us/>

**❖ MAINE**

Mr. Roland D. Martin, Commissioner  
Maine Department of Inland Fisheries  
& Wildlife  
284 State Street, Station #41  
Augusta ME 04333  
(207) 287-5202/fax 207-287-6395  
Website:  
[www.janus.state.me.us/ifw/index.htm](http://www.janus.state.me.us/ifw/index.htm)

**❖ MICHIGAN**

Ms. Rebecca Humphries, Director  
Michigan Department of Natural Resources  
P.O. Box 30028  
Lansing MI 48909  
(517) 373-2329/fax 517-335-4242  
Website: <http://www.dnr.state.mi.us/>

**❖ MINNESOTA**

Mr. John Guenther, Director  
Division of Fish and Wildlife  
Minnesota Department of Natural Resources  
500 Lafayette Road  
St. Paul MN 55155-4007  
(651) 297-4218/fax (651) 297-7272  
Website: <http://www.dnr.state.mn.us/>

**❖ MISSOURI**

Mr. John D. Hoskins, Director  
Missouri Department of Conservation  
P.O. Box 180  
Jefferson City MO 65102-0180  
(573) 522-4115/fax 573-751-4467  
Website: [www.conservation.state.mo.us/](http://www.conservation.state.mo.us/)

**❖ MISSISSIPPI**

Dr. Sam Polles, Executive Director  
Mississippi Department of Wildlife,  
Fisheries & Parks  
2906 Building, P.O. Box 451  
Jackson MS 39205  
(601) 432-2001/fax 601-432-2024  
Website: <http://www.mdwfp.com/>

**❖ MONTANA**

Mr. M. Jeff Hagener, Director  
Montana Department of Fish, Wildlife  
& Parks  
P O Box 200701  
Helena MT 59620-0701  
(406) 444-3186/fax 406-444-4952  
Website: <http://fwp.state.mt.us/>

**❖ NEBRASKA**

Mr. Rex Amack, Director  
Nebraska Game & Parks Commission  
2200 North 33rd, Box 30370  
Lincoln NE 68510  
(402) 471-5539/fax 402-471-5528  
Website:  
[www.ngpc.state.ne.us/homepage.html](http://www.ngpc.state.ne.us/homepage.html)

**❖ NEVADA**

Mr. Terry R. Crawforth, Administrator  
Nevada Department of Wildlife  
1100 Valley Road  
Reno NV 89512  
(775) 688-1599/fax 775-688-1595  
Website: <http://www.ndow.org>

**❖ NEW HAMPSHIRE**

Mr. Lee Perry, Executive Director  
New Hampshire Fish & Game Department  
11 Hazen Drive  
Concord NH 03301  
(603) 271-3422/fax 603-271-1438  
Website: <http://www.wildlife.state.nh.us/>

**❖ NEW JERSEY**

Mr. David Chanda, Director  
New Jersey Division of Fish and Wildlife  
P.O. Box 400  
Trenton NJ 08625  
(609) 292-9410/fax 609-292-8207  
Website: <http://www.state.nj.us/dep/fgw/>

**❖ NEW MEXICO**

Dr. Bruce Thompson, Director  
New Mexico Game & Fish Department  
One Wildlife Way  
Santa Fe NM 87507  
505.476.8008/fax 505.476.8124  
Website: <http://www.gmfsh.state.nm.us/>

**❖ NEW YORK**

Mr. Gerry Barnhart, Director  
Div. of Fish, Wildlife & Marine Resources  
NYS Dept. of Environmental Conservation  
625 Broadway, 5th Floor  
Albany NY 12233-4750  
518-402-8924 /fax 518-402-8925  
Website: <http://www.dec.state.ny.us/>

**❖ NORTH CAROLINA**

Mr. Charles Fullwood, Executive Director  
N. Carolina Wildlife Resources Commission  
512 N. Salisbury Street  
Raleigh NC 27604-1188  
(919) 733-3391/fax 919-733-7083  
Website: <http://www.ncwildlife.org/>

**❖ NORTH DAKOTA**

Mr. Dean Hildebrand, Commissioner  
North Dakota Game & Fish Department  
100 North Bismarck Expressway  
Bismarck ND 58501  
(701) 328-6300/fax 701-328-6352  
Website: <http://www.state.nd.us/gnf/>

**❖ OHIO**

Mr. Steven A. Gray, Chief  
Ohio Division of Wildlife  
2045 Morse Road, Building G  
Columbus OH 43229-6605  
(614) 265-6304/fax 614-262-1143  
Website: [www.dnr.state.oh.us/odnr/wildlife](http://www.dnr.state.oh.us/odnr/wildlife)

**❖ OKLAHOMA**

Mr. Greg Duffy, Director  
Oklahoma Dept. of Wildlife Conservation  
P.O. Box 53465  
Oklahoma City OK 73152-3465  
(405) 521-4660/fax 405-521-6505  
Website: [www.wildlifedepartment.com/](http://www.wildlifedepartment.com/)

**❖ OREGON**

Mr. Lindsay Ball, Director  
Oregon Department of Fish & Wildlife  
3406 Cherry Avenue N.E.  
Salem, OR 97303-4924  
(503) 947-6044 /fax (503) 947-6042  
Website: <http://www.dfw.state.or.us/>

**❖ PENNSYLVANIA**

Mr. Carl G. Roe, Executive Director  
Pennsylvania Game Commission  
2001 Elmerton Avenue  
Harrisburg PA 17110-9797  
(717) 787-3633/fax 717-772-0502  
Website:  
[www.state.pa.us/PA\\_Exec/PGC/index.htm](http://www.state.pa.us/PA_Exec/PGC/index.htm)

**❖ PUERTO RICO**

Mr. Craig G. Lilyestrom  
Director, Marine Resources Division  
Puerto Rico Dept. of Natural Resources  
PDA 3 1/2 Ave.  
Munoc Rivera  
Puerta de Tierra Station  
P.O. Box 9066600  
San Juan PR 00906-6600  
(787) 723-3090/fax 787-724-0365  
Website: <http://www.drnpr.com/>

**❖ RHODE ISLAND**

Mr. Michael Lapisky, Acting Chief  
Rhode Island Division of Fish & Wildlife  
Stedman Government Center  
4808 Tower Hill Road  
Wakefield RI 02879  
(401) 789-3094/fax 401-783-4460  
Website:  
[www.state.ri.us/dem/programs/bnatres/fishwild/index.htm](http://www.state.ri.us/dem/programs/bnatres/fishwild/index.htm)

**❖ SOUTH CAROLINA**

Mr. John Frampton, Director  
South Carolina Dept. of Natural Resources  
P.O. Box 167  
Columbia SC 29202  
(803) 734-4007/fax 803-734-6310  
Website: <http://water.dnr.state.sc.us/>

**❖ SOUTH DAKOTA**

Mr. John Cooper, Secretary  
South Dakota Game, Fish  
and Parks Department  
523 East Capitol  
Pierre SD 57501-3182  
(605) 773-3387/fax 605-773-6245  
Website: <http://www.state.sd.us/gfp/>

**❖ TENNESSEE**

Mr. Gary T. Myers, Executive Director  
Tennessee Wildlife Resources Agency  
P.O. Box 40747  
Nashville TN 37204  
(615) 781-6552/fax 615-781-6551  
Website: [www.state.tn.us/twra/index.html](http://www.state.tn.us/twra/index.html)

**❖ TEXAS**

Mr. Robert L. Cook, Executive Director  
Texas Parks & Wildlife Department  
4200 Smith School Road  
Austin TX 78744  
(512) 389-4802/fax 512-389-4814  
Website: <http://www.tpwd.state.tx.us/>

**❖ US VIRGIN ISLANDS**

Dr. Barbara Kojis  
Director, Division of Fish and Wildlife  
Department of Planning & Natural  
Resources  
6291 Estate Nazareth 101  
St. Thomas VI 00802  
(340) 775-6762/Fax 340-775-3972

**❖ UTAH**

Mr. Miles Moretti, Acting Director  
Utah Division of Wildlife Resources  
1594 W. North Temple, Suite 2110  
P.O. Box 146301  
Salt Lake City UT 84114-6301  
(801) 538-4703/fax 801-538-4709  
Website: [www.nr.state.ut.us/dwr/dwr.htm](http://www.nr.state.ut.us/dwr/dwr.htm)

**❖ VIRGINIA**

Mr. William L. Woodfin, Jr., Director  
Virginia Department of Game  
& Inland Fisheries  
4010 W. Broad Street, Box 11104  
Richmond VA 23230  
(804) 367-9231/fax 804-367-0405  
Website: <http://www.dgif.state.va.us/>

**❖ VERMONT**

Mr. Wayne Laroche, Commissioner  
Vermont Department of Fish & Wildlife  
103 S. Main Street, 10 South  
Waterbury VT 05671-0501  
(802) 241-3730/fax 802-241-3295  
Website:  
[www.anr.state.vt.us/fw/fwhome/index.htm](http://www.anr.state.vt.us/fw/fwhome/index.htm)

**❖ WASHINGTON**

Mr. Jeff Koenings, Director  
Washington Dept. of Fish and Wildlife  
600 Capitol Way North  
Olympia WA 98501-1091  
(360) 902-2225/fax 360-902-2947  
Website: <http://www.wa.gov/wdfw/>

**❖ WISCONSIN**

Mr. Scott Hassett, Secretary  
Wisconsin Dept. of Natural Resources  
Box 7921  
Madison WI 53707-7921  
(608) 266-2621/fax 608-266-6983  
Website: <http://www.dnr.state.wi.us/>

**❖ WEST VIRGINIA**

Mr. Curtis Taylor, Chief  
Wildlife Resources Section  
West Virginia Division of Natural Resources  
1900 Kanawha Boulevard, East  
Charleston WV 25305  
(304) 558-2771/fax 304-558-3147  
Website: <http://www.dnr.state.wv.us/>

**❖ WYOMING**

Mr. Terry Cleveland, Interim Director  
Wyoming Game & Fish Department  
5400 Bishop Boulevard  
Cheyenne WY 82006  
(307) 777-4501/fax 307-777-4699  
Website: <http://gf.state.wy.us/>

**❖ SAIPAN**

Dr. Joaquin A. Tenorio, Secretary  
Department of Lands & Natural Resources  
P.O. Box 10007  
Saipan, MP 96950  
(670) 322-9834/Fax: (670) 322-2633  
Website: <http://www.dfw.gov.mp/default.htm>

**❖ GUAM**

Mr. Gerry Davis, Acting Chief  
Division of Aquatic & Wildlife Resources  
Department of Agriculture  
192 Dairy Road  
Mangilao GU 96923  
671-735-3984  
Fax: 671-734-6570

**❖ AMERICAN SAMOA**

Mr. Philip Langford  
Marine and Wildlife Resources Department  
P.O. Box 3730  
Pago Pago AS 96799  
(684) 633-4456/Fax (684) 633-5944  
Website: [www.asg.gov.com/departments/dmwr.asg.htm](http://www.asg.gov.com/departments/dmwr.asg.htm)

**❖ ALBERTA**

Mr. Ken Ambrock, Director  
Fish and Wildlife Management Division  
Natural Resources Service - Alberta  
Environment  
Main Floor, South Petroleum Plaza  
9915 - 108 Street  
Edmonton ALB T5K 2G8 CANADA  
Phone: (780) 427-3809  
Fax: (780) 422-9557  
Website: <http://www.gov.ab.ca/env/fishwl.html>

**❖ MANITOBA**

Mr. Jack Dubois, Director, Wildlife Branch  
Manitoba Department of Natural Resources  
Box 24, 200 Saulteaux Crescent  
Winnipeg MAN R3J 3W3 CANADA  
Phone: (204) 945-7761  
Fax: (204) 945-3077  
Website: <http://www.gov.mb.ca/natres/>

**❖ NEW BRUNSWICK**

Mr. Mike Sullivan, Executive Director  
Fish & Wildlife Branch  
Dept. of Natural Resources & Energy  
349 King Street  
Fredericton, NB E3B 5H1 CANADA  
Phone: (506) 453-2433  
Fax: (506) 453-6699  
<http://www.gov.nb.ca/0078/>

**❖ NOVIA SCOTIA**

Mr. Barry Sabeau, Director of Wildlife  
Department of Natural Resources  
136 Exhibition Street  
Kentville, Nova Scotia B4N 4E5 CANADA  
Phone: (902) 679-6139  
Fax: (902) 679-6176  
<http://www.gov.ns.ca/natr/>

**❖ NORTHWEST TERRITORIES**

Ms. Susan Fleck  
Director, Wildlife and Fisheries Division  
Dept. of Resources, Wildlife and Economic  
Development  
Govt. of Northwest Territories  
Scotia Centre, 5th Floor, #600, 5102 50th  
Avenue  
Yellowknife, NWT X1A 3S8 CANADA  
Phone: (867) 873-8064  
Fax: (867) 873-0293  
<http://www.nwtwildlife.rwed.gov.nt.ca/>

**❖ ONTARIO**

Mr. Cameron Mack  
Director, Fish and Wildlife Branch  
Ontario Ministry of Natural Resources  
300 Water Street, 5th Floor  
P.O. Box 7000  
Peterborough Ontario K9J 8M5 CANADA  
Phone: (705) 755-1909  
Fax: (705) 755-1900  
<http://www.mnr.gov.on.ca/MNR/fwmenu.html>

**❖ SASKATCHEWAN**

Mr. Dennis Sherratt  
Director, Wildlife Branch  
Saskatchewan Natural Resources  
3211 Albert Street  
Regina, Saskatchewan S4S 5W6 CANADA  
Phone: (306) 787-2314  
Fax: (306) 787-9544  
<http://www.se.gov.sk.ca/>

**Contact Information for State and Territorial Veterinarians**

<http://www.usaha.org/members.shtml#agency>

❖ **ALABAMA**

Dr. Anthony G. Frazier  
1445 Federal Drive  
Montgomery, AL 36107  
(334) 240-7253  
Fax: (334) 240-7198  
tony.frazier@agi.alabama.gov

❖ **ALASKA**

Dr. Bob Gerlach  
550 S. Alaska St., Suite 6  
Palmer, AK 99645  
(907) 269-7635 or (907) 745-3236  
Fax : (907) 745-8125  
bob\_gerlach@dec.state.ak.us

❖ **ARIZONA**

Dr. Rick Willer  
1688 W. Adams, Phoenix, AZ 85007  
(602) 542-4293  
Fax: (602) 542-4290  
rwiller@azda.gov

❖ **ARKANSAS**

Dr. George Badley  
Mailing Address: P. O. Box 8505  
Little Rock, AR 72215  
#1 Natural Resources Drive  
Little Rock, AR 72205  
(501) 907-2400  
Fax: (501) 907-2425  
pbadle@aripc.org

❖ **CALIFORNIA**

Dr. Richard E. Breitmeyer  
1220 N Street, Suite 409, Fourth Floor  
Sacramento, CA 95814  
(916) 654-0881  
Fax: (916) 651-0713  
rbreitmeyer@cdfa.ca.gov

❖ **COLORADO**

Dr. Wayne E. Cunningham  
700 Kipling St., Suite 4000  
Lakewood, CO 80215  
(303) 239-4161  
Fax: (303) 239-4164  
wayne.cunningham@ag.state.co.us

❖ **CONNECTICUT**

Dr. Mary Lis  
165 Capitol Avenue, Room G-8A  
Hartford, CT 06105  
(860) 713-2505  
Fax: (860) 713-2515  
Mary.Lis@po.state.ct.us

❖ **DELAWARE**

Dr. Michael Vanderklok  
2320 S. DuPont Highway  
Dover, DE 19901  
(302) 739-4811  
Fax: (302) 697-4451  
michael.vanderklok@state.de.us

❖ **FLORIDA**

Dr. Thomas J. Holt  
335 Mayo Bldg., 407 South Calhoun Street  
Tallahassee, FL 32399-0800  
(850) 410-0914  
Fax: (850) 410-0915  
holtt@doacs.state.fl.us

❖ **GEORGIA**

Dr. Lee M. Myers  
19 Martin Luther King Jr. Dr.  
Capitol Square, Room 106  
Atlanta, GA 30334-4201  
(404) 656-3671  
Fax: (404) 657-1357  
lmyers@agr.state.ga.us

❖ **GUAM**

Dr. Steven Nusbaum  
P.O. Box 739  
Agana, Guam 96910  
(671) 734-3490 ext. 9

❖ **HAWAII**

Dr. Jim Foppoli  
99-941 Halawa Valley St.  
Aiea, HI 96701  
(808) 483-7111  
Fax: (808) 483-7110  
james.foppoli@gte.net

❖ **IDAHO**

Dr. Gregory A. Ledbetter  
2270 Old Penitentiary Road  
Boise, ID 83707  
(208) 332-8540  
Fax: (208) 334-4062  
gledbetter@idaho.gov.us

❖ **ILLINOIS**

Dr. Mark Ernst  
801 E. Sangamon Ave.  
State Fairgrounds  
Springfield, IL 62794-9281  
(217) 782-4944  
Fax: (217) 524-7702  
mernst1@agr.state.il.us

❖ **INDIANA**

Dr. Bret D. Marsh  
805 Beachway Drive, Suite 50  
Indianapolis, IN 46224-7785  
(317) 227-0300  
Fax: (317) 227-0330  
bmarsh@boah.state.in.us

❖ **IOWA**

Dr. John Schiltz  
Animal Industry Bureau  
Agriculture & Land Stewardship  
Wallace Bldg., 2nd Fl., East 9th & Grand  
Des Moines, IA 50319  
(515) 281-5305  
Fax: (515) 281-4282  
John.Schiltz@idals.state.ia.us

❖ **KANSAS**

Mr. George Teagarden  
Livestock Commissioner  
Kansas Animal Health Department  
708 South Jackson  
Topeka, KS 66603-3714  
(785) 296-2326  
Fax: (785) 296-1765  
gteagarden@kahd.ks.gov

❖ **KENTUCKY**

Dr. Robert Stout  
100 Fairoaks Lane, Suite 252  
Frankfort, KY 40601  
(502) 564-3956  
Fax: (502) 564-7852  
Robert.Stout@kyagr.com

❖ **LOUISIANA**

Dr. Maxwell Lea, Jr.  
5825 Florida Boulevard, RM 1262  
Baton Rouge, LA 70806  
(225) 925-3980  
Fax: (225) 925-4103  
maxwel\_l@ldaf.state.la.us

❖ **MAINE**

Dr. Donald E. Hoenig  
28 State House Station  
Augusta, ME 04333  
(207) 287-3701  
Fax: (207) 624-5044  
donald.e.hoenig@maine.gov

❖ **MARYLAND**

Dr. Guy Hohenhaus  
50 Harry S. Truman Parkway  
Annapolis, MD 21401  
(410) 841-5810  
Fax: (410) 841-5999  
hohenhgs@mda.state.md.edu

❖ **MASSACHUSETTS**

Dr. Lorraine O'Connor  
251 Causeway St., Suite 500  
Boston, MA 02114-2151  
(617) 626-1791  
Fax: (617) 626-1850  
Lorraine.O'Connor@state.ma.us

❖ **MICHIGAN**

Dr. Steven L. Halstead  
525 W. Allegan  
Lansing, MI 48933  
(517) 373-8118  
Fax: (517) 241-4502  
halsteads@michigan.gov

❖ **MINNESOTA**

Dr. William L. Hartmann  
625 North Robert Street  
St. Paul, MN 55155  
(651) 201-6825  
Fax: (651) 296-7417  
bill.hartmann@bah.state.mn.us

❖ **MISSISSIPPI**

Dr. James A. Watson  
121 N. Jefferson St.  
Jackson, MS 39201  
(601) 359-1170  
Fax: (601) 359-1177  
jimw@mdac.state.ms.us

❖ **MISSOURI**

Dr. Shane Brookshire  
1616 Missouri Blvd.  
Jefferson City, MO 65109  
(573) 751-3377  
Fax: (573) 751-6919  
Shane.Brookshire@mda.mo.gov

❖ **MONTANA**

Dr. Thomas Linfield  
301 N. Roberts  
Helena, MT 59620-2001  
(406) 444-0782  
Fax: (406) 444-1929  
tlinfield@mt.gov

❖ **NEBRASKA**

Dr. Dennis A. Hughes  
301 Centennial Mall South  
Lincoln, NE 68509-4787  
(402) 471-6806  
Fax: (402) 471-6893  
dhughes@agr.ne.gov

❖ **NEVADA**

Dr. David S. Thain  
350 Capitol Hill Ave.  
Reno, NV 89502-2992  
(775) 688-1180 #261  
Fax: (775) 688-1178  
dthain@agri.state.nv.us

❖ **NEW HAMPSHIRE**

Dr. Stephen K. Crawford  
State House Annex, 2nd Floor  
25 Capitol Street  
Concord, NH 03301  
(603) 271-2404  
Fax: (603) 271-1109  
scrawford@agr.state.nh.us

❖ **NEW JERSEY**

Dr. Nancy Halpern  
John Fitch Plaza  
South Warren & Market St.  
Room 201  
Trenton, NJ 08625  
(609) 984-8427  
Fax: (609) 777-8395  
nancy.halpern@ag.state.nj.us

❖ **NEW MEXICO**

Dr. Steven R. England  
300 San Mateo NE – Suite 1000  
Albuquerque, NM 87108  
(505) 841-6161  
Fax: (505) 841-6160  
statevetlb@prodigy.net

❖ **NEW YORK**

Dr. John P. Huntley  
1 Winners Circle  
Albany, NY 12235-0001  
(518) 457-3502  
Fax: (518) 485-7773  
john.huntley@agmkt.state.ny.us

❖ **NORTH CAROLINA**

Dr. David T. Marshall  
1030 Mail Service Center  
Rm 472, Agriculture Bldg.  
2 West Edenton Street  
Raleigh, NC 27601  
(919) 733-5657  
Fax: (919) 733-6431  
david.marshall@ncmail.net

❖ **NORTH DAKOTA**

Dr. Susan J. Keller  
600 E. Boulevard Ave., Dept. 602  
Bismarck, ND 58505  
(701) 328-2655  
Fax: (701) 328-4567  
skeller@state.nd.us

❖ **OHIO**

Dr. R. David Glauer  
8995 E. Main St.  
Reynoldsburg, OH 43068  
(614) 728-6220  
Fax: (614) 728-6310  
glauer@odant.agri.state.oh.us

❖ **OKLAHOMA**

Dr. Becky Brewer-Walker  
2800 N. Lincoln Blvd.  
Oklahoma City, OK 73152  
(405) 522-6134  
Fax: (405) 522-0756  
bbrewer@oda.state.ok.us

❖ **OREGON**

Dr. Donald Hansen  
635 Capitol St., NE  
Salem, OR 97301-2532  
(503) 986-4680  
Fax: (503) 986-4735  
DHansen@oda.state.or.us

❖ **PENNSYLVANIA**

Dr. Paul Knepley  
2301 N. Cameron St.  
Harrisburg, PA 17110-9408  
(717) 772-2852  
Fax: (717) 787-1868  
pknepley@state.pa.us

❖ **RHODE ISLAND**

Dr. Christopher Hannafin  
235 Promenade Street, Room 370  
Providence, RI 02908  
(401) 222-2781 ext. 4503  
Fax: (401) 222-6047  
Christopher.hannafin@dem.ri.gov

❖ **SAIPAN**

Ignacio Delacruz  
Department of Land and Natural Resources  
Common Wealth of the Northern Mariana  
Islands  
P.O. Box 10007  
Saipan, MP96950  
(670) 234-6180  
itdlacruz@pticom.com

❖ **SOUTH CAROLINA**

Dr. John A. Caver  
Clemson University  
500 Clemson Road  
Columbia, SC 29229  
(803) 788-2260 Ext: 234  
Fax: (803) 788-8058  
jcaver@clemson.edu

❖ **SOUTH DAKOTA**

Dr. Sam D. Holland  
411 S. Fort St.  
Pierre, SD 57501  
(605) 773-3321  
Fax: (605) 773-5459  
dr.holland@state.sd.us

❖ **TENNESSEE**

Dr. Ronald B. Wilson  
P. O. Box 40627  
Nashville, TN 37204  
(615) 837-5120  
Fax: (615) 837-5250  
ron.wilson@state.tn.us

❖ **TEXAS**

Dr. Bob Hillman  
2105 Kramer Lane  
Austin, TX 78758  
(512) 719-0700  
Fax: (512) 719-0721  
bhillman@tahc.state.tx.us

❖ **UTAH**

Dr. Michael R. Marshall  
350 North Redwood Road  
Salt Lake City, UT 84114-6500  
(801) 538-7160  
Fax: (801) 538-7169  
mmarshall@utah.gov

❖ **VERMONT**

Dr. Kerry Rood  
116 State St., Drawer 20  
Montpelier, VT 05602-2901  
(802) 828-2421  
Fax: (802) 828-5983  
drrood@agr.state.vt.us

❖ **VIRGINIA**

Dr. Richard L. Wilkes  
Washington Bldg, Suite 101  
1100 Bank St.,  
Richmond, VA 23219  
(804) 692-0601  
Fax: (804) 225-2666  
rwilkes@vdacs.virginia.gov

❖ **WASHINGTON**

Dr. Leonard Eldridge  
1111 Washington Street  
Natural Resources Bldg.  
Olympia, WA 98504-2577  
(360) 902-1878  
Fax: (360) 902-2087  
leldridge@agr.wa.gov

❖ **WEST VIRGINIA**

Dr. Joe Starcher  
4720 Brenda Lane, Bldg 12,  
Charleston, WV 25312  
(304) 558-2214  
Fax: (304) 558-2231  
jstarcher@ag.state.wv.us

❖ **WISCONSIN**

Dr. Robert Ehlenfeldt  
2811 Agriculture Drive  
Madison, WI 53708-8911  
(608) 224-4880  
Fax: (608) 224-4871  
robert.ehlenfeldt@datcp.state.wi.us

❖ **WYOMING**

Dr. Dwayne C. Oldham  
2020 Carey Ave., 4th Floor  
Cheyenne, WY 82002  
(307) 777-6443  
Fax: (307) 777-6561  
csando1@state.wy.us

**Contact List for Area Veterinarians-in-Charge**[http://www.aphis.usda.gov/vs/area\\_offices.htm](http://www.aphis.usda.gov/vs/area_offices.htm)❖ **ALABAMA**

Dr. O. W. Hester  
 Beard Office Building (Packages)  
 1445 Federal Drive, Room 218  
 P.O. Box 70429 (Letters)  
 Montgomery, AL 36107  
 (334) 223-7141, 47, 48  
 Fax (334) 223-7352  
 E-mail: Owen.Hester@usda.gov

❖ **ALASKA**

Dr. Gary L. Brickler  
 2604 12th Court, SW, Suite B  
 Olympia, WA 98502  
 (360) 753-9430  
 Fax (360) 753-9585  
 E-mail: Gary.L.Brickler@usda.gov

❖ **ARIZONA**

Dr. Hortentia Harris  
 1400 E. Southern Ave., Suite 245  
 Tempe, AZ 85282  
 (480) 491-1002  
 Fax (480) 491-1895  
 E-mail: Hortentia.D.Harris@usda.gov

❖ **ARKANSAS**

Dr. Ronnie Blair  
 1200 Cherry Brook Dr., Suite 300  
 Little Rock, AR 72211  
 (501) 224-9515  
 Fax (501) 225-5823  
 E-mail: Ronnie.E.Blair@usda.gov

❖ **CALIFORNIA**

10365 Old Placerville Road, Suite 210  
 Sacramento, CA 95827-2518  
 (916) 854-3950  
 Fax (916) 363-3919  
 E-mail: VSCA@aphis.usda.gov

❖ **COLORADO**

Dr. Roger Perkins  
 755 Parfet Street, Suite 136  
 Lakewood, CO 80215  
 (303) 231-5385  
 Fax (303) 231-5390  
 E-mail: Roger.Perkins@usda.gov

❖ **FLORIDA**

Dr. Robert E. Southall  
 7022 NW 10th Place  
 Gainesville, FL 32605-3147  
 (352) 333-3120  
 Fax (352) 333-6849  
 E-mail: VSFL@aphis.usda.gov

❖ **GEORGIA**

Dr. Edgardo Arza  
 1498 Klondike Rd., Suite 200  
 Conyers, GA 30094  
 (770) 922-7860  
 Fax (770) 483-9000  
 E-mail: Edgardo.Arza@usda.gov

❖ **HAWAII**

Dr. Gary L. Brickler  
 2604 12th Court, SW  
 Suite B  
 Olympia, WA 98502  
 (360) 753-9430  
 Fax (360) 753-9585  
 E-mail: Gary.L.Brickler@usda.gov

❖ **IDAHO**

Dr. Cynthia Gaborick  
 9158 West Black Eagle Drive  
 Boise, ID 83709  
 (208) 378-5631  
 Fax (208) 378-5637  
 E-mail: Cynthia.M.Gaborick@usda.gov

❖ **ILLINOIS**

Dr. Lennis Knight  
 2815 Old Jacksonville Rd.  
 Suite 104  
 Springfield, IL 62704  
 (217) 862-6689  
 Fax (217) 862-6695  
 E-mail: Lennis.C.Knight@usda.gov

❖ **INDIANA**

Dr. Francisco Collazo Mattei  
 5685 Lafayette Road  
 Suite 400  
 Indianapolis, IN 46254-6158  
 (317) 290-3300  
 Fax (317) 290-3311  
 E-mail: Francisco.Collazo-Mattei@usda.gov

❖ **IOWA**

Dr. Kevin L. Petersburg  
 Federal Bldg.  
 Rm. 891  
 210 Walnut Street  
 Des Moines, IA 50309  
 (515) 284-4140  
 Fax (515) 284-4156  
 E-mail: Kevin.L.Petersburg@usda.gov

❖ **KANSAS**

Dr. Kevin P. Varner  
1947 NW Topeka Blvd.  
Suite F  
Topeka, KS 66608  
(785) 235- 2365  
Fax (785) 235-1464  
E-mail: Kevin.P.Varner@usda.gov

❖ **KENTUCKY**

Dr. Barbara A. Bischoff  
P.O. Box 399  
Frankfort, KY 40602  
(502) 227-9651  
Fax (502) 223-7121  
E-mail: Barbara.A.Bischoff@usda.gov

❖ **LOUISIANA**

Dr. Joel Goldman  
5825 Florida Blvd.  
Rm 1140  
Baton Rouge, LA 70806-9985  
(225) 389-0436  
Fax (225) 389-0524  
E-mail: Joel.Goldman@usda.gov

❖ **MARYLAND (DE, DC)**

Dr. Steven N. Finch  
1598 Whitehall Road  
Suite A  
Annapolis, MD 21401  
(410) 349-9708  
Fax (301) 261-8113  
E-mail: Steven.N.Finch@usda.gov

❖ **MASSACHUSETTS (CT, ME, NH, RI, VT)**

Dr. William G. Smith  
160 Worcester-Providence Road  
Sutton Square Plaza  
Suite 20  
Sutton, MA 01590-9998  
(508) 865-1421, 22  
Fax (508) 865-9317  
E-mail: William.G.Smith@usda.gov

❖ **MICHIGAN**

Dr. Reed Macarty  
3001 Coolidge Road, Suite 325  
East Lansing, MI 48823  
(517) 324-5290  
Fax (517) 324-5289  
E-mail: Reed.E.Macarty@usda.gov

❖ **MINNESOTA**

Dr. Michael L. Stine  
251 Starkey Street  
Bolander Bldg., Suite 229  
St. Paul, MN 55107  
(651) 290-3691  
Fax (651) 228-0654  
E-mail: Michael.L.Stine@usda.gov

❖ **MISSISSIPPI**

Dr. Charles P. Nettles  
345 Keyway Street  
Flowood, MS 39232  
(601) 965-4307  
Fax (601) 965-5535  
E-mail: Charles.Nettles@usda.gov

❖ **MISSOURI**

Dr. Robert L. Fischer  
P.O. Box 104418  
Jefferson City, MO 65110-4418  
(573) 636-3116  
Fax (573) 636-4384  
E-mail: Robert.L.Fischer@usda.gov

❖ **MONTANA**

Dr. Paul Sciglibaglio  
208 North Montana Ave., Suite 101  
Helena, MT 59601-3837  
(406) 449-2220  
Fax (406) 449-5439  
E-mail: Paul.Sciglibaglio@usda.gov

❖ **NEBRASKA**

Dr. Kathleen Akin  
P.O. Box 81866  
Lincoln, NE 68501  
(402) 434-2300  
Fax (402) 434-2330  
E-mail: Kathleen.J.Akin@usda.gov

❖ **NEVADA**

10365 Old Placerville Road  
Suite 210  
Sacramento, CA 95827-2518  
Administration  
(916) 854-3950  
Fax (916) 363-3919  
E-mail: VSCA@usda.gov

❖ **NEW JERSEY**

Dr. Jonathan Zack  
Mercer Corporate Park  
320 Corporate Blvd.  
Robbinsville, NJ 08691-1598  
(609) 259-8387  
Fax (609) 259-2477  
E-mail: Jonathan.T.Zack@usda.gov

**❖ NEW MEXICO**

Dr. Michael T. Greenlee  
6200 Jefferson Street, NE, Suite 117  
Albuquerque, NM 87109  
(505) 761-3160  
Fax (505) 761-3176  
E-mail: Michael.T.Greenlee@usda.gov

**❖ NEW YORK**

Dr. Roxanne Mullaney  
500 New Karner Road  
2nd Floor  
Albany, NY 12205  
(518) 869-9007  
Fax (518) 869-6135  
E-mail: Roxanne.C.Mullaney@usda.gov

**❖ NORTH CAROLINA**

Dr. Eric S. Coleman  
930 Main Campus Drive, Suite 200  
Raleigh, NC 27606  
(919) 855-7700  
Fax (919) 855-7720  
E-mail: Eric.S.Coleman@usda.gov

**❖ NORTH DAKOTA**

Dr. Larry A. Schuler  
3509 Miriam Ave., Suite B  
Bismarck, ND 58501  
(701) 250-4210  
Fax (701) 250-4471  
E-mail: Larry.A.Schuler@usda.gov

**❖ OHIO**

Dr. Susan Skorupski  
12927 Stonecreek Drive  
Pickerington, OH 43147  
(614) 469-5602  
Fax (614) 866-1086  
E-mail: Susan.Skorupski@usda.gov

**❖ OKLAHOMA**

Dr. Burke L. Healey  
4020 North Lincoln Blvd., Suite 101  
Oklahoma City, OK 73105  
(405) 427-9413  
Fax (405) 427-9451  
E-mail: Burke.L.Healey@aphis.usda.gov

**❖ OREGON**

Dr. Don Herriot  
530 Center St., NE, Suite 335  
Salem, OR 97301  
(503) 399-5871  
Fax (503) 399-5607  
E-mail: Don.E.Herriott@usda.gov

**❖ PENNSYLVANIA**

Dr. Rosemary Sifford, Acting, AVIC  
2301 N. Cameron St., Rm. 412  
Harrisburg, PA 17110  
(717) 782-3442  
Fax (717) 782-4098  
E-mail: Rosemary.Sifford@usda.gov

**❖ PUERTO RICO**

Dr. Miguel A. Borri-Diaz  
IBM Building  
654 Munoz Rivera Avenue, Suite 700  
Hato Rey, PR 00918  
(787) 766-6050  
Fax (787) 766-5159  
E-mail: Miguel.A.Borri-Diaz@usda.gov

**❖ SOUTH CAROLINA**

Dr. Delorias Lenard  
9600 Two Notch Road, Suite 10  
Columbia, SC 29229  
(803) 788-1919  
Fax (803) 788-2102  
E-mail: Delorias.M.Lenard@usda.gov

**❖ SOUTH DAKOTA**

Dr. Lynn. A. Tesar  
314 S. Henry, Suite 100  
Pierre, SD 57501-0640  
(605) 224-6186  
Fax (605) 224-8451  
E-mail: Lynn.A.Tesar@usda.gov

**❖ TENNESSEE**

Dr. Allen M. Knowles  
P.O. Box 110950  
Nashville, TN 37222  
(615) 781-5310  
Fax (615) 781-5309  
E-mail: Allen.M.Knowles@usda.gov

**❖ TEXAS**

Dr. Paul O. Ugstad  
Thornberry Bldg., Rm. 220  
903 San Jacinto Blvd.  
Austin, TX 78701  
(512) 916-5551  
Fax (512) 916-5197  
E-mail: VSTX@aphis.usda.gov

**❖ U.S. VIRGIN ISLANDS**

Dr. Miguel A. Borri-Diaz  
IBM Building  
654 Munoz Rivera Avenue, Suite 700  
Hato Rey, PR 00918  
(787) 766-6050  
Fax (787) 766-5159  
E-mail: Miguel.A.Borri-Diaz@usda.gov

❖ **UTAH**

Dr. Robert A. DeCarolis  
176 N. 2200 West, Suite 230  
Airport Park, Bldg. #4  
Salt Lake City, UT 84116  
(801) 524-5010  
Fax (801) 524-6898  
E-mail: VSUT@usda.gov

❖ **VIRGINIA**

Dr. Terry L. Taylor  
Federal Building  
400 North 8th Street, Room 726  
PO Box 10068 Richmond, VA 23240  
(804) 343-2560  
Fax (804) 771-2030  
E-mail: Terry.L.Taylor@usda.gov

❖ **WASHINGTON**

Dr. Gary L. Brickler  
2604 12th Court, SW, Suite B  
Olympia, WA 98502  
(360) 753-9430  
Fax (360) 753-9585  
E-mail: Gary.L.Brickler@usda.gov

❖ **WEST VIRGINIA**

Dr. Susan Skorupski  
12927 Stonecreek Drive  
Pickerington, OH 43147  
(614) 469-5602  
Fax (614) 866-1086  
E-mail: Susan.Skorupski@usda.gov

❖ **WISCONSIN**

Dr. Linn Wilbur  
6510 Schroeder Road, Suite 2  
Madison, WI 53711  
(608) 270-4000  
Fax (608) 270-4001  
E-mail: Linn.A.Wilbur@usda.gov

❖ **WYOMING**

Dr. Bret A. Combs  
5353 Yellowstone Road, Room 209  
Cheyenne, WY 82009  
(307) 772-2186  
Fax (307) 772-2592  
E-mail: Bret.A.Combs@usda.gov

## Contact list for State and Territorial Public Health Epidemiologists

[http://www.cste.org/members/state\\_and\\_territorial\\_epi.asp](http://www.cste.org/members/state_and_territorial_epi.asp)

State Public Health Department websites: <http://www.cdc.gov/doc.do/id/0900f3ec80226c7a/>

State	State Epidemiologist	Email address	Phone
Alabama	John Lofgren	jlofgren@adph.state.al.us	334-206-5940
Alaska	Jay Butler	jay_butler@health.state.ak.us	907-269-8000
American Samoa	Joseph Roth	asepi@ekit.com	684-699-4983
Arizona	David Engelthaler	engeltd@azdhs.gov	602-364-3297
Arkansas	Frank Wilson	fjwilson@healthyarkansas.com	501-280-4172
California	Gilberto Chavez	gchavez1@dhs.ca.gov	916-440-7434
Colorado	Ned Calonge	ned.calonge@state.co.us	303-692-2662
Connecticut	James Hadler	james.hadler@po.state.ct.us	860-509-7995
Delaware	Paula Eggers	paula.eggers@state.de.us	302-744-4764
Florida	John Middaugh	john_middaugh@doh.state.fl.us	850-877-9408
Georgia	Susan Lance	selance@dhr.state.ga.us	404-657-2617
Guam	Robert Haddock	robhad@yahoo.com	671-735-7299
Hawaii	Paul Effler	pveffler@mail.health.state.hi.us	808-587-6843
Idaho	Christine Hahn	hahnc@idhw.state.id.us	208-334-5939
Illinois	Mark Dworkin	mdworkin@idph.state.il.us	312-814-4846
Indiana	Robert Teclaw	rteclaw@isdh.in.gov	317-233-7807
Iowa	Patricia Quinlisk	pquinlis@idph.state.ia.us	515-281-4941
Kansas	Gail Hansen	ghansen@kdhe.state.ks.us	785-296-1127
Kentucky	Kraig Humbaugh	kraig.humbaugh@ky.gov	502-564-7243
Louisiana	Raoult Ratard	rratard@dhh.la.gov	504-458-5428
Maine	Kathleen Gensheimer	Kathleen.F.Gensheimer@maine.gov	207-287-5183
Maryland	David Blythe	dblythe@dhhm.state.md.us	410-767-6685
Massachusetts	Alfred DeMaria	Alfred.Demaria@state.ma.us	617-983-6550
Michigan	Corinne Miller	MillerCori@michigan.gov	517-335-8900
Minnesota	Harry F. Hull	harry.hull@state.mn.us	651-201-5414
Mississippi	Kevin M McNeill	mmcneill@msdh.state.ms.us	601-576-7725
Missouri	Bao-Ping Zhu	zhub@dhss.mo.gov	573-751-6128
Montana	Todd Damrow	tdamrow@mt.gov	406-444-3986
Nebraska	Tom Safranek	tom.safranek@hhss.ne.gov	402-471-0550
Nevada	Ihsan Azzam	iazzam@nvhd.state.nv.us	775-684-5946
New Hampshire	Jose T. Montero	jmontero@dhhs.state.nh.us	603-271-5325
New Jersey	Eddy Bresnitz	eddy.bresnitz@doh.state.nj.us	609-588-7463
New Mexico	C. Mack Sewell	mack.sewell@state.nm.us	505-476-3568
New York	Perry Smith	pfs01@health.state.ny.us	518-474-1055
New York City	Marcelle Layton	mlayton@health.nyc.gov	212-788-4193
North Carolina	Jeffrey Engel	jeffrey.engel@ncmail.net	919-715-7394
North Dakota	Kirby Kruger	kkruger@state.nd.us	701-328-4549
Northern Mariana Islands (Saipan)	James U Hosfschneider	chcsc@vzpacifica.net	670-234-8950
Ohio	Forrest W. Smith	fsmith@gw.odh.state.oh.us	614-752-8454
Oklahoma	Brett Cauthen	BCauthen@health.ok.gov	405-271-4060
Oregon	Melvin Kohn	melvin.a.kohn@state.or.us	503-731-4023
Pennsylvania	Veronica Urdaneta	vurdaneta@state.pa.us	717-787-3350
Puerto Rico	Enid Garcia	ejgarcia@salud.gov.pr	787-274-7697
Rhode Island	Utpala Bandy	utpalab@doh.state.ri.us	401-222-2577
South Carolina	James J. Gibson	gibsonjj@dhec.sc.gov	803-898-0861
South Dakota	Lon Kightlinger	lon.kightlinger@state.sd.us	605-773-3737
Tennessee	Allen Craig	allen.craig@state.tn.us	615-741-7247
Texas	Jeff Taylor	jeff.taylor@dshs.state.tx.us	512-458-7676

Utah	Robert Rolfs	rrolfs@utah.gov	801-538-6386
Vermont	Cortland Lohff	clohff@vdh.state.vt.us	802-863-7240
Virgin Islands	Darlene Carty	commissioner@usvi-doh.org	340-774-0117
Virginia	Carl Armstrong	carl.armstrong@vdh.virginia.gov	804-864-7905
Washington	Jo Hofmann	jo.hofmann@doh.wa.gov	206-418-5510
Washington DC	John O. Davies-Cole	john.davies-cole@dc.gov	202-442-9138
West Virginia	Loretta Haddy	lorettahaddy@wvdhhr.org	304-558-5358
Wisconsin	Jeffrey Davis	davisjp@dhfs.state.wi.us	608-267-9006
Wisconsin	Henry Anderson	anderha@dhfs.state.wi.us	608-266-1253
Wyoming	Tracy D. Murphy	tmurph@state.wy.us	307-777-7716

### Sample HPAI Contact Summary Form

Contact	Name	Phone	E-mail	Contact Dates
WASO Contact				
Region Contact				
Other NPS Units				
State Wildlife Agency				
USFWS				
USGS				
Diagnostic Laboratory				
State Veterinarian				
USDA - AVIC				
State Pubic Health				
SHPO				
Tribes				
Other Federal Agencies				
State Partners				
Local Partners				
News Media				

## **GLOSSARY**

This glossary contains simple explanations of terms, as they can be understood in the context of the Highly Pathogenic Avian Influenza Preparedness and Communication Plan and Response Plan.

APHIS - Animal and Plant Health Inspection Service, part of USDA.

AVIC – Area Veterinarian-in-Charge. The lead veterinarian for USDA APHIS in a particular geographical area; there are 42 areas nationwide.

BRD – Biological Resources Division. A division of the U.S. Geological Survey based in Reston, VA but including the Wildlife Health Center in Madison, WI.

BRMD – Biological Resource Management Division. A division of the National Park Service, part of the Natural Resource Program Center, based in Fort Collins, CO.

Buffer-Surveillance Zone – Area designed by USDA APHIS. The zone immediately surrounding the Infected Zone is the Buffer-Surveillance Zone, which with the Infected Zone comprises the Control Area.

Case mortality rate – number of those infected who will die.

Control Area – Area designated by USDA APHIS that includes the Infected Zone and a Buffer-Surveillance Zone.

Culling – lethal removal of animals to control a disease outbreak.

Disinfectant – A chemical or mechanical means of rendering the virus unviable. For HPAI, bleach and appropriate quaternary ammonia compounds, peroxygens, and phenols used at proper concentrations.

FAO – Food and Agriculture Organization of the United Nations.

HHS – United States Department of Health and Human Services.

HPAI – Asian strain of highly pathogenic avian influenza subtype H5N1

HPAI Coordinator – A person designated in each NPS Unit to evaluate the vulnerability of the unit to HPAI, and to be aware of the NPS Preparedness and Communication Plan and Response Plan for the disease.

HPAI Regional Coordinator – a person appointed by the NPS Regional Director to help ensure that HPAI Preparedness and Communication Plan and Response Plan are coordinated between park units, the NPS Washington Office, and other appropriate agencies.

Incident Management Team (IMT) – The team has authority delegated by the Agency Administrator to take necessary actions to respond to a specific emergency.

Incident – An occurrence or event, either human-caused or natural phenomena that requires action by emergency service personnel to prevent or minimize loss of life or damage to property and/or natural resources. An HPAI outbreak (at least initial outbreaks) that affected NPS units would be handled as an incident.

Incident Action Plan (IAP) – The incident action plan, which is usually prepared at the first meeting, contains general control objectives reflecting the overall incident strategy, and specific action plans for the next operation period (incidents are divided into operational periods). The HPAI Response Plan includes an IAP.

Incident Commander – The individual responsible for all incident operations.

Incident Command System (ICS) – The combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure with responsibility for the management of assigned resources to effectively accomplish stated objective pertaining to an incident.

Infected Zone – Area designated by USDA APHIS. In an outbreak, the Infected Zone initially will encompass the perimeter of all presumptive positive and confirmed positive premises and will include as many of the Contact Premises as the situation requires. The boundary of the Infected Zone initially should be established at least 10 km.

Morbidity - Illness apparent by clinical signs of disease

Mortality - Death

Pandemic – worldwide outbreak of disease

Pathogenicity – ability to cause disease. For avian influenza, the reference is for ability to cause disease in poultry.

State Veterinarian – State official that is responsible for livestock disease control to ensure compliance with federal and state laws.

Surveillance Zone – Area designated by USDA APHIS. A Surveillance Zone should be established within and along the border of a Free Zone, separating the Free Zone from the Buffer-Surveillance Zone within a Control Area.

T&E Species – Threatened and endangered species as designated by listing under the provisions of the Endangered Species Act.

Unusual mortality event – Identification of sick or dead wildlife that is outside of the limits of that routinely encountered.

USDA – United States Department of Agriculture. APHIS is a part of the Department of Agriculture.

USFWS – United States Fish and Wildlife Service.

WASO – NPS Washington D.C. Support Office

WHO – World Health Organization.

## Contributors to Plan

Dr. Margaret Wild, Wildlife Veterinarian, Biological Resource Management Division.  
[Margaret\\_Wild@nps.gov](mailto:Margaret_Wild@nps.gov)

CAPT. Chuck Higgins, U.S. Public Health Service, Director, NPS Office of Public Health. [Charles\\_Higgins@nps.gov](mailto:Charles_Higgins@nps.gov).

CAPT. David Bleicher, U.S. Public Health Service, NPS Occupational Health Program.  
[David\\_P\\_Bleicher@partner.nps.gov](mailto:David_P_Bleicher@partner.nps.gov).

Bob Palmer, Acting National Staff Ranger, Washington DC.  
[Bob\\_Palmer@nps.gov](mailto:Bob_Palmer@nps.gov).

Steve Krutz, Human Resource Specialist, Division of Labor and Employee Relations  
[Steve\\_krutz@nps.gov](mailto:Steve_krutz@nps.gov).

Mark Harvey, Supervisory Park Ranger, Law Enforcement and Emergency Services  
[Mark\\_harvey@ios.doi.gov](mailto:Mark_harvey@ios.doi.gov)

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